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ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

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LECTURE III.

THE QUESTION OF SYMPTOMS.

IN this lecture I shall endeavor so to discuss the facts that you will have to decide in a certain measure for yourselves. It will not do for those who believe that versions and flexions constitute a morbid entity, strictly defined by the subjective and objective symptoms that usually group themselves round a definite morbid condition, to regard as oblique or prejudiced observers, those who hold so strongly the opposite opinion. If we are going to know just the kind and degree of truth that belong to each, we must be free from the bias that deflects our own judgment, and recognize the fact that symptoms may contradict themselves without prejudicing matters either of pathology or treatment.

In 1883 a comparatively new method was applied to the study of uterine displacements, and which it was hoped by the authors and the medical public to settle, finally, the much discussed question, the part played by flexions, especially in pelvic diseases of women. The general gynecologist gains his knowledge by the study of women who seek his advice, and who are, therefore, more or less the subjects of diseased processes. Drs. Herman, in London, and Vedeler, of Christiania, conceived the idea of making a study of women who sought advice for other than uterine troubles, of those who did not, and, lastly, of those who did suffer from dysmenorrhœa. These observers have settled the question in their own minds, and in those of many writers and journal editors, that uterine flexions are without important symptoms, and play no part in the field of pelvic pathology. It is needless for us to analyze their statistics. A few remarks will serve to guard you against drawing too hasty conclusions upon the figures given by these authors. Vedeler goes into his subject without defining what he means by a uterine flexion. It is wrong to take for granted that we all mean the same thing. How important this is, one of his conclusions will show, namely, that the "prevailing position of the uterus is one of ante flexion." If he has included in his cases those of normal antecurvature, and that is what he must mean by "prevailing position," his statistics would amount to nothing in the opinion of any practical gynecologist. Until the approximate normal position and form of the uterus is settled in such a way that we may all observe and reason from a sort of common standard, statistics like those advanced by Vedeler will leave the question unsettled, and even

worse than unsettled, for it is obscured by a mass of shadowy facts.

The statistics given by Herman upon the subject of dysmenorrhœa as a constant symptom attendant upon flexions are opposed by the same objection against it, while it is an experience common to us all to observe dysmenorrhœa exist in subjects free from changes in uterine form (just as we may, and often do, observe it in patients with a patulous os), and quite as frequently as stated by Herman. I would not allude to this matter at all, except that it has become quite the fashion to refer to both these authors by those, especially, who are opposed to the mechanical theory of uterine pathology. I do not hesitate to say that we must take up the subject as though these authors have never written, and earnestly endeavor to reach the truth that is concealed, rather than made obvious, in both the theories of mechanical and inflammatory uterine pathology.

In view of the importance of this subject, it will be attended by considerable advantage to study it carefully before lecturing upon those forms of uterine versions and flexions that find expression in pelvic or general symptoms.

The paradox that a generally admitted pathological condition may exist without subjective symptoms is one that finds frequent expression in the human body. It is not rare for the knife of the anatomist to reveal errors of structure unsuspected during life. But while we may admit this as a general proposition, it is difficult to concede it to an organ with such active and peculiar endowments as the uterus.

It is important that we examine carefully the condition under which a version or flexion of the uterus may exist without any assertion of itself by symptoms. And, first, What is the nature of the affirmative evidence upon this question? Very respectable authority, as one must admit. Kiwisch states that a slight degree of flexion causes no pain or disturbance, and when symptoms are present they are due to diseased changes in the parenchyma of the organ. Rigby says that symptoms are wholly wanting in many cases, and C. Mayer, that one would scarce suspect, by the symptoms in any case, a uterine error, while Velpeau remarks the same in certain women, and West is so confident of it, as a general thing, that he uses it as an argument in favor of the unimportance of other uterine disorders. Sommer holds the same opinion in instances of slight forms of the error. Rockwitz holds the same opinion as Velpeau, but explains it by the difference in the constitutional reaction of women, and Martin may be disposed of under this head also. Huguier and Säxinger believe there are no symptoms where the flexion is slight and the organ is small. Cazeaux may be classed under this opinion. Dubois states that flexions cause no symptoms, except as they may retard the exit of the menstrual secretion, and Chassaignac no symptoms, except such as may be induced by movements and concussions of the flexed organ. The more

modern idea is expressed by Bennet, Depaul, Raciborsky, Tilt, Thomas, Meadows, and a large number of others, who believe that the symptoms of flexions depend upon the presence or absence of inflammatory complications. It is the old battle between the inflammatory and mechanical schools in gynecology. Hewitt, the great advocate of the mechanical school, is outspoken to the effect that flexions and versions of the uterus "constitute lesions of the greatest importance, and that they play a very considerable part in the production of the suffering to which women are liable." The "irritable uterus" of Gooch is, according to this last author, the simple evidence of the existence of a flexion. Priestley says that flexions of the unimpregnated uterus are productive of very "grave symptoms in very distant, as well as in near, parts." Hueter is equally positive in his evidence to the same effect. We shall make no attempt to reconcile the opinions of the conflicting factions in gynecology, but, by a careful examination of clinical facts, reach an idea of the conditions in which versions and lesions of the uterus may, or may not, be attended by symptoms.

In the first place, it is safe to premise that the performance of function in the uterus is necessary to the production of flexion-pain. Developmental flexions in young girls are usually discovered accidentally. The rhythmic occurrence of functional hyperæmia is necessary to produce congestion in a uterus essentially deformed. A developmental version or flexion up to the moment of functional life ought, therefore, to exist without subjective symptoms.

Advancing the subject of a developmental flexion to the stage of complete sexual evolution, there may yet be an absence of symptoms. This may be due to several causes. The uterus being of small size, it neither disturbs the bladder in front nor the rectum behind. The uterus and ovaries being defective as organs, and menstruation being correspondingly deficient as to time and quantity, symptoms of occlusion of the uterine canal are either slight or absent (Hueter); the organ being of this under-size, corporeal congestions, even causing increase in size and weight, are too slight to cause traction-pains upon uterine supports, or disturbance of near parts. In case of marriage, the condition of developmental flexion rarely escapes as a source of subjective symptoms. This social relation calls into play the whole sexual apparatus, a use as purely functional as that of menstruation; and as a flexed uterus existed negatively as to symptoms previous to the development of ovulation, and became a source of symptoms only as the organ developed its characteristic functions; so, in escaping the latter, many cases of this group of flexions do not create subjective symptoms until the whole sexual cycle of organs fulfil their functional life. We may remark of developmental flexions that exist dormant at one period of a woman's life, that it is no reason why they are not pathological.

We cannot agree with Emmet, that, providing no complication exists, mere position of the uterus is of little moment. They are of moment from the many possibilities of morbid reactions that exist potentially in the flexed uterus, and that are quite certain to spring into activity when the woman marries.

Many of these symptoms of the developmental flexion, it is true, depend upon hyperæmia and hyperæsthesia,

but they are none the less flexion-symptoms for all that. It is not expected that a dislocated uterus will develop specific symptoms. Nobody, to-day, quotes Dr. West's controversial book on the insignificance of the ulcerative processes of the os uteri; and yet his arguments hold the same relation to the facts of that condition that those of later writers, who write to the same purpose, do to flexions and versions of the uterus.

It is more difficult to explain the absence of subjective symptoms in the acquired forms of flexion. There are, however, certain well-known conditions that may tend to this result. Detschy, in recent cases, and Säxinger, in long-standing instances of flexion, in which the uterus was not much enlarged, noticed absence of pain. This does not explain those long-standing cases in which the uterus is considerably enlarged, and in which there is no complaint. This phenomenon is explained by some as due to a slight development of the version or flexion (Kiwisch, Sommer, Säxinger); or, we have the theory of Rockwitz and Martin, that the sensibility, the reaction, and the possibility of becoming accustomed to the presence of version or flexion is different in various individuals. This may be, to a certain extent, an explanation, not only in relation to the subject under review, but to many other forms of uterine disease. It may be doubted if Hueter's objection, that he has seen instances of flexions in enlarged uteri in nervous and delicate women of the higher classes without pain, places any difficulties in the way of this theory. In fact, this is the very class of women in which we should expect such a result. It is safe to assume that in these cases of flexed uteri with hypertrophy, we have complicated with the flexion the products, if not the actual presence of inflammation. In such cases that exist with negative symptoms, the absence of inflammation cannot be assumed as a cause.

There is an explanation of this which has been hitherto overlooked. Many of these cases of quiescent flexions reach this state after a former period of activity, as centres of symptomatic disturbance. Reasoning from analogy the cause of this remission of symptoms is clear. The various tissue-components of the uterus have adjusted themselves to the changed relations existing in flexion of the organ. This is exclusive of any lessened reaction on the part of the system generally, which may, or may not, exist in any given case. As an illustration, take Hewitt's theory of "strangulation of the uterus." He assumes that the main blood-supply of the uterine body is from the arteries of the cervix, and were it not for small Fallopian branches of the spermatic artery, no blood would reach the fundus of the uterus in case of flexion. This corporeal strangulation would soon be compensated for by an increase in the volume of the collateral circulation. This is not speculation; the fact referred to is an underlying law of physiology. In case of nerve-fibres compressed at the flexed point, and in the stage of active subjective symptoms giving rise to neuralgia, the same law of adjustment applies. Connective-tissue absorption occurs in the flexed uterine wall, and the nerve-filaments thus released from pressure the pain is assuaged. Inflammation, so called, either as an accidental complication or as a result of the flexion, must, by the readjustment of the circulation and the lessened nerve irritation, undergo the same improvement. Meadows, who be-

lieves that inflammation is the "almost universal accompaniment of all cases of uterine flexions" that come under treatment, unconsciously to himself, perhaps, comes to the aid of the mechanical theory. He says "that when symptoms of flexion and inflammation co-exist, the symptoms of flexion are due to mechanical causes and are clinically distinct."

Whether the pain that frequently attends flexions is due to neuralgia or to inflammation, cannot be a question of importance. It is impossible to exclude either as a factor. The theory of Kiwisch, afterwards revived and claimed by Scanzoni, that all symptoms in flexions are due to textural changes in the uterine body, or cavity, or to peritoneal inflammation, falls before clinical facts. Against this it is simply necessary to quote the objection of Picard that a flexed uterus, otherwise normal, may cause pain by obstructing the escape of menstrual secretion, or by interfering with the proper function of the rectum or bladder.

Hueter's theory is that flexions may or may not be productive of symptoms according as the flexed organ exerts traction upon the ligaments, the ligamenta vesico-uterina in retroflexion, or version and the ligamenta recto-uterina in the opposite form of displacements; the want of uniformity in the length of these ligaments permitting considerable latitude of movement in one case with consequent exemption from pain; and restricting slight movements in others with traction-pain as a result. Applying the theory still further, these cases of painful traction upon the ligaments may gradually become painless by extension and relaxation of the ligaments involved. Chassaignac partially supports this theory by explaining many of the flexion-pains as due to excessive mobility of the flexed uterus.

The cause of the absence or abatement of pain during menstruation, which is a phenomenon strongly urged by some as an evidence of the non-existence of flexion-symptoms, is explained by Squarey as due in case of atony of uterine tissue to the influx of blood to the organ, which partly straightens the axis and thus reduces the stricture that exists between the periods. This is a partial use of the theory of Rouget, that the uterus is an erectile organ under all circumstances from sexual excitement or menstruation. Emmet and others adopt this theory of Rouget, as formulated by him, to explain this condition of the flexed uterus in painless menstruation.

This theory of uterine erection explains the absence of dyspareunia in cases of retroflexion in which the most careful touch of the depressed uterine fundus by the exploring finger elicits severe pain, and yet the sexual act is both painless and satisfactory. The erection of the uterus during this act seems the only way to explain how the fundus of the organ gets beyond the intromitted penis.

In many of the etiological relations of flexions, we cannot conceive of them dissociated from inflammatory and other symptoms closely related to the pathogeny of the displacement.

By grouping versions and flexions of the uterus etiologically with reference to the leading symptom characteristic of each group, symptoms change their significance. The accompanying table is compiled from E. Martin's *Die Neigungen und Beugungen der Gebä-*

mutter nach vorn und hinten. Each group is assigned those subjective and objective symptoms which play a leading part in the morbid events.

By observing the table in the aggregate, that is, condensing the various groups into one phase of versions and flexions backwards or forwards, as they are generally noticed in the text-books, we may say that the symptoms of these displacements are dysmenorrhœa, sterility, impotency, dyspareunia, menorrhagia, metrorrhagia, sacral and hypogastric pain, dysuria, ischuria, constipation, a few unimportant abdominal and locomotor symptoms.

On the contrary, by observing the relations of these symptoms to a minute subdivision of these displacements into eleven groups, as in the table, the symptoms define contributive conditions rather than the flexions themselves. In this way we perceive the motive of each symptom.

Thus in the two groups of developmental versions and flexions B and E we find dysmenorrhœa, sterility, impotency, the remaining columns of symptoms being accidental conditions, even when rarely present. But, as we have already seen, we must regard the dysmenorrhœa as accidental also, since from the arrested evolution of the parts and the low grade of the menstrual activity, dysmenorrhœa is not present in the unmarried, except in those instances in which menstrual activity very nearly corresponds to the normal. Omitting this symptom, the sterility and impotency define the local conditions. We perceive in the physical *ensemble* the same impaired development, the same lowered grade of functional activity, that are found in the uterus.

Passing to the acquired forms of the displacements, we find the symptoms holding the same close relations to the etiological conditions. In the recent forms of acquired versions and flexions of puerperal origin, groups I and K, we observe that the first four columns of the table are blanks; then come persistent hemorrhage, marked inflammatory evidences, urinary symptoms, and locomotor lesions. In the older forms of these displacements, due to the same etiological conditions, groups C and D, these symptoms lose their intensity somewhat, and find local expression mainly through profuse menstruation and dysmenorrhœa; generalizing more broadly, in groups B and E, we find the functional factor prominent as the motive of the symptoms; in groups I and K the inflammatory factor assumes the leading part, and in groups A and L we have the mechanical factor.

There does not appear in this view of the subject any room for the old-standing conflict between the mechanical and inflammatory schools in gynecology.

But the question is a natural one: Is the fact that a uterus is flexed to have no bearing upon the subjective symptoms? So far as specific symptoms, the question may be answered in the negative. From this a false inference has quite generally been drawn, namely, if versions and flexions are without symptoms, then they can have no importance, and deserve no treatment. Nothing can be further from true science than such a conclusion. One might refer to numberless instances in which many abnormal conditions exist without subjective evidence, and yet call urgently for relief. One effect of the flexion, or version, is to complicate and prolong a morbid process, which, if it existed free from

CAUSES.	Menstrual Symptoms.	Sterility.	Abortion.	Impotency, Dyspareunia.	Hemorrhage.	Pain, Inflammation, etc.	Leucorrhœa.	Bladder Symptoms.	Rectal Symptoms.	Abdominal Symptoms.	Locomotor Symptoms.
A.—Anteversion and flexion, due to shrinkage in ligamentum rotundum, or in exudation on anterior uterine wall.	Scanty.	..	..	..	..	Pain in groin and thighs.	..	..	Defecation difficult.	..	Locomotion difficult from pain in thighs.
B.—Anteflexion caused by arrest of development in anterior uterine wall.	Dysmenorrhœa in all; scanty, or long intervals.	Sterility.	..	Impotency	Hemorrhage, 2 in 25.	Sacralgia common.	Accidental only.	Rare.	..	..	..
C.—Old anteflexion, due to defective involution of posterior uterine wall.	Profuse, frequent dysmenorrhœa.	..	..	..	Menorrhagia or metrorrhagia, 84 in 205.	Bearing down.	Frequent.	Dysuria frequent.	Constipation, hemorrhoids.	..	Pseudoparaplegia in four cases.
D.—Old retroflexion, due to defective involution of anterior wall.	Dysmenorrhœa not so frequent as in C.	..	..	..	Menorrhagia.	Bearing down.	Mucous or purulent.	..	Hemorrhoids, rectal catarrh, constipation.	Pain in epigastrium; meteorism.	Lameness, from varicose veins, and pain.
E.—Retroversion and flexion, due to defect in development, or contraction, in posterior uterine wall.	Dysmenorrhœa from beginning.	Sterility frequent	Abortion.	Impotency.	..	In 20 per cent. accidental colpitis, endometritis.	Mucous or mucopus in 10 per cent.	..	Constipation.	Vomiting during menstruation.	..
F.—Retroversion and flexion, due to contraction in ligamenta pubovesico-uterina, or anterior vaginal vault.	Dysmenorrhœa in multiparæ.	..	..	Dyspareunia.	..	Granular erosion of os externum.	Leucorrhœa.	Dysuria.	Tenesmus.	..	..
G.—Retroversion and flexion, due to contraction in ligamentum ovarii, or fixation.	Dysmenorrhœa common.	..	..	..	Profuse.	Pain and tenderness of groin of same side.	..	..	..	..	Difficult from pain and weakness in limbs
H.—Anteversion and flexion, due to pressure on posterior uterine wall.	..	Sterility.	..	..	Persistent.	..	..	..	..	..	..
I.—Recent retroversion and flexion, due to defective involution of anterior wall.	..	..	..	..	Persistent.	Sacralgia.	..	Dysuria, or retention, of sudden onset.	..	Hypogastric tenderness; meteorism.	Difficult from edema of limbs.
K.—Old retroversion and flexion due to defective involution of anterior wall.	..	..	..	..	Persistent.	Endometritis; weight in hypogastrium and in anterior part of thighs.	Ulcers or hyperæmia.	Dysuria; ischuria frequent.	Constipation, diarrhœa.	..	..
L.—Anteversion and flexion, due to shrinkage in ligamenta sacro-uterina, or exudation on anterior uterine wall.	..	..	..	..	..	Sacralgia and pain in legs; worse during menstruation.	..	..	..	Bilious vomiting during menstruation.	Difficult from pain.

its complication, would tend to speedy recovery. Groups C, D, I, and K, without the flexion ought, from the nature of things, to recover spontaneously. They do not attain this end because the uterine conditions have resulted in organic changes in the form of the organ, the result of which is to prolong indefinitely the action of the morbid cause, defective involution. To correct the flexion or version, therefore, is simply to remove the obstacle that has stood in the way of a completion of the involution process.

In the event of another and very probable termination of a uterine flexion, that of complete tissue adjust-

ment with subsidence of the 'subjective symptoms, it demands just as emphatically the attention of the gynecologist. In the first place, the flexion is the relic of a morbid process, and a perpetual menace to the health of the woman. From slight provocation, that without the displacement would pass harmless, the flexed organ may be the focus of a renewal of the morbid process.

One of the chief objections made against versions and flexions as a source of pelvic disturbance is the absence of dysmenorrhœa in those cases in which these variations of form and position are known to exist.

Yon will observe that in this whole lecture on the question of symptoms, we have been dealing with negative evidence. It is difficult to deal with questions of symptomatology when the proof is of this character. It is never a very clear clinical case in which we have to reason by exclusion. We might with perfect propriety reason in this manner as to causes in a given case of dysmenorrhœa; but it would be very bad logic to reverse this process, and upon it base a broad generalization as to the absence of this symptom in flexion. Now, as a matter of fact, these cases do occur, and by no means rarely. We have one group of flexions in which this is almost the rule during one period of the patient's life, namely, the developmental, previous to the completion of the functional life of the part, that is, before marriage, because we must regard the sexual relation as the final expression of the function of sex. In these cases we find function developed *pari passu* with structure. The uterus and ovaries are doing no more work than defective organs ought to do. Hence we have rather a delicate woman, but one who is meeting the demands of her functional life with comfort.

When, however, such a subject marries this state of affairs is reversed. Functional demands exceed structural ability, and my experience has been that at this stage in the life of these subjects the symptoms characteristic of flexions present themselves. This is the rule, of course there are exceptions.

We must seek other explanations for the absence of this symptom in the acquired form of flexion. It may characterize several conditions, which I shall briefly name. The flexion may have reached the stage of adjustment and the period of active symptoms passed. This adjustment I have already explained. The flexion of the organ, while objectively evident, may be of such a character as not to induce subjective menstrual symptoms. If one, like Herman, were massing statistics upon the absence of dysmenorrhœa in flexions, he would have to deny this, or claim that it was the rule. No one has yet taken either of these positions. But we know that dysmenorrhœa may be present at one period in a case of uterine flexion and absent at another period, and that, as a rule, the conditions of the patient remaining unchanged, these two periods are not interchangeable, the first period passing into the second. This may be a matter of adjustment, and it may be that the menstrual difficulty may have been dependent upon pelvic causes other than uterine; but, what I wish to bring out clearly is that the flexion itself, while it may be a centre of reflex nervous disturbance, may not impair the menstrual function of the uterus. First, it may not cause cervical obstruction, or, if so, the erection described by Rouget may rectify it; secondly, the endometrium may approximate a normal condition, and thus remove this source of menstrual disturbance; and, lastly, the near parts may in no way be affected. I believe we have all met with this class of uterine flexion. But a woman in this condition is constantly liable to sexual accidents, and while we would say that here we may do nothing, we should not forget that at any period during her functional life she may need our care for the very condition that at this period we are justified in overlooking.

The change in the symptomatic relations of versions and flexions due to the climacteric period of life is

marked. It throws also some light on the conditions attending the non-symptomatic stage of flexions at the earlier periods of life. Sommer states that at the beginning of decrepitude the physiological activity of the uterus disappears, and with it the reflex evidence of flexion, although the original displacement continues. Rockwitz states that when the flexion continues to this age, and the functional activity of the uterus is lost, no further occasion is given for pain, and the displacement can no longer be regarded as a disease. As will be seen, this is too sweeping an assertion to make of a flexion at any time of life. Detschy and Picard reach the same conclusion with Rockwitz. Scanzoni holds that flexion of the uterus after the change of life is unimportant, since in consequence of senile atrophy the organ materially loses its volume; and that after the change, which is often accompanied by severe hemorrhage, the displacement is, as a rule, removed. The testimony of Dr. Head is to the same effect. Arlidge believes that the presence of a flexion tends to prolong unduly the menstrual life, and mentions a case of retroversion with hypertrophy of the uterine fundus in which menstruation continued to the sixty-fourth year.

Hueter, however, records cases in which the symptoms of flexions persisted after the completion of the climacteric. One case of four years after that event had severe gastric and sacral pain, and two others, old women, who had suffered many years from retroflexion, had severe and continued cephalalgia. He, therefore, concludes that not all the symptoms of versions and flexions necessarily disappear in advanced age; that many of them outlive menstruation, and that at the occurrence of senile atrophy only certain of the symptoms disappear. He also states that it is possible that flexion in old women may give occasion to a wholly new train of symptoms. These are the symptoms of hydrometra, a condition described as sometimes observed as a sequela of flexion at this period of life. These symptoms are, pain and tumor in the hypogastrium, and expulsive pain in consequence of uterine contraction, and as a result of this, in a uterus not wholly occluded, a quantity of secretion discharges from the vagina, and from the disturbance of nutrition, anæmia and hysteria may present themselves.

The following conclusions, based upon the above review, are offered as probable:

1. That there are no specific symptoms of versions or flexions of the uterus.
2. That versions and flexions previous to the advent of uterine function may be unattended by symptoms; that from the nature of these developmental errors symptoms may be wanting after menstruation, but deserve, nevertheless, to be regarded as pathological.
3. That acquired forms of versions and flexions, as a rule, are attended by symptoms; but owing to certain general and local conditions, namely, lessened systematic reaction and local adjustment of the tissue-components of the uterus to the changed relations of the version or flexion, these symptoms may disappear, the organic error remaining the same.
4. That on the cessation of menstruation, and the occurrence of senile atrophy, symptoms of the uterine displacement subside, the displacement persisting. The reverse of this is exceptional.
5. There being no specific symptoms of versions and

flexions, the symptoms defining these errors of the uterus depend, in common with many other uterine diseases, on disturbance of function of the uterus, of near parts, of the system generally, and that these disturbances may exist without symptoms of inflammation: that these inflammatory evidences may exist with those of displacement, either as co-results of common factors, or as pathogenetic of the uterine malposition, and that when these displacements and inflammations coexist, many of the flexion symptoms may be due to mechanical causes and are clinically distinct.

In the next lecture we shall analyze the subjective symptoms that characterize these changes in uterine form and position.

ORIGINAL ARTICLES.

SOME NOTES ON THE PATHOLOGY OF INTRANASAL INFLAMMATION.

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THE following notes are based mainly on the anatomical study, extending over a period of nearly three years, of a large number of inflammatory growths removed from different portions of the nasal chambers, and at all stages of the catarrhal process. The reflections therein embodied are not intended as full presentation of the subject, but simply as introductory to a future and more elaborate contribution, in which not only my own, but the observations of others will be recorded.

I. The changes found in common catarrhal inflammation of the nasal passages are pathologically separable into three distinct groups corresponding to the three clinical stages of the disease, viz., the simple inflammatory, the hypertrophic, and the atrophic.

The gross anatomical appearances of the first stage consist essentially in localized or diffuse infection, with moderate swelling of the tissues. This involves an increased irritability of these structures, which expresses itself in an abnormal excitability of the erectile tissue. This excessive irritability of the cavernous bodies is characteristic, and constitutes the central phenomenon around which the other symptoms of the stage are grouped, and from which many of them proceed, either from purely mechanical causes or as the result of reflex action.

There is very little, if any, swelling of the mucous membrane proper, the main condition being repeated engorgement of the erectile bodies. Portions of the mucous and underlying tissues removed with the snare bleed freely, are soft to the touch, can generally be flattened out with the finger, and, when thrown into alcohol, sink slowly to the bottom of the vessel. They are uniformly smooth in contour, and present, when first removed, a dark purplish and mottled look on the upper surface, while on the under aspect the peculiar spongy appearance of the lacerated and dilated erectile body can be distinctly made out. Under the microscope, the appearance which immediately strikes the eye is the enormously dilated and engorged condition of the erectile spaces and the

extreme tenuity of their walls. The latter are often reduced to the merest shred, resembling the meshes of a delicate web. Occasionally, large, irregular spaces are observed, which doubtless result from rupture, either before or during the compression produced by the snare. In some cases small hemorrhages are discoverable in the submucous tissue. I have not met with any notable changes in the mucous membrane. The epithelial layer is usually intact, and, beyond perhaps a slight amount of cellular infiltration of the submucous tissues, there is nothing to call for special remark.

In the second, or hypertrophic stage, the gross appearances vary considerably. The growths, when removed, are either round or oval in contour, uniformly smooth or irregularly lobulated, or covered with little protuberances, giving them the appearance of a raspberry. Frequently, when the loop of the snare is disengaged from the hypertrophied tissue, a small shred or stem projects from the under surface of the latter, which, together with the smooth upper surface of the growth and its rounded, folded inward edges, presents a striking resemblance to a mushroom. The hypertrophies vary in color, from a dirty grayish or yellowish-gray, to a red, and even purplish hue. The color and density of the hypertrophy vary with its age. The older the growth, the paler the color and the harder the consistency.

Cross-section with a knife discloses often a peculiar *nutmeg appearance*, due to the interlacing fibrous bands and the dark brownish aspect of the blood in the erectile spaces. In other cases, this nutmeg appearance is not well marked, the whole tissue being converted into a dense, fibrous mass. These masses are incompressible, and sink immediately when thrown into the preserving fluid. They are sometimes covered with little granular or papillary projections.

The microscopical appearances vary. In all, the most remarkable is the conversion of the walls of the erectile spaces into dense fibrous bands, which, in contracting, obliterate more or less completely the erectile cells. These latter present numerous irregularities in outline, and, in those places where the fibrous change is most marked, contain very little, or are altogether destitute of blood. This fibrous process invades the submucous tissues, and converts them too into a fibrous mass in which their glandular elements disappear. The latter are apparently destroyed or obliterated, not only as the mechanical result of the contraction of the new-formed tissue, but also by cellular infiltration of the glandules themselves. The latter is of two kinds, an intra- and peri-acinal.

When the fibrous process is confined to the deeper layers, the epithelium is usually intact. When, however, the structures immediately under the basement membrane are invaded by the round-cell infiltration, the epithelial layer is notably thickened, often in an irregular manner. This thickening is most marked in the undulations of the free surface. Occasionally the epithelial proliferation assumes the form of distinct filamentous papillary growths, which are beautifully shown under the microscope.

In some places the epithelial cells are filled with a

granular detritus, or are altogether wanting. The latter occurs when the fibrous process encroaches on the superficial layers and obliterates their blood supply. When this occurs, the epithelium may be entirely gone over a considerable extent of surface, nothing being left but the basement membrane. When all the layers are involved in the shrinking of the new-formed tissue, the surface of the growth is often thrown into small pear-shaped projections or knobs, which consist entirely of fibrous tissue. I am inclined to believe that these knobs may subsequently become detached and that this process of detachment may be one step in the future atrophy of the membrane. For, if the histories of certain cases of atrophic rhinitis be carefully taken, it will appear that, from time to time, there are found in the discharge from the nose during the hypertrophic stage, small nodular masses, which are described by the patients as "little pieces of flesh." They will affirm, furthermore, that, when this has occurred, the nostrils are perceptibly freer, and, encouraged by this false hope, which they take as an evidence of return to the healthy condition, they neglect treatment and go on to the atrophic stage. I have not met with any mention of this clinical fact in the writings of others, and am inclined to the opinion that the "pieces of flesh" are none other than these polypoid knobs of fibrous or papillomatous tissue, and that their expulsion may be regarded as an index of approaching tissue destruction.

Before leaving this brief consideration of the hypertrophic stage, I wish to call attention to an appearance which I have twice met with, viz., the obliteration of the lumen of the erectile spaces by masses of round cells which resemble the white corpuscular elements of the blood.

The transition of the first stage into the hypertrophic does not seem to me to depend necessarily upon the presence of constitutional disease, or vice of constitution, inherited or acquired. While it is true, that certain diathetic diseases predispose, other things being equal, to the development of this fibrous tissue in excess, the same takes place in the perfectly healthy, and in those who are free from the slightest trace of constitutional taint. In the hypertrophic erectile bodies which I have removed from syphilitic patients, the fibrous tissue was notably excessively developed, and that this disease predisposes to the subsequent atrophy of the tissue, I think there can be no doubt. It is indeed doubtless true that certain diathetic conditions, and especially the inherited form of syphilis, as well as certain imperfectly understood personal peculiarities, exert an important influence in the determination of the atrophic stage of rhinitis, but there is a form which, in the present state of our knowledge, is indicative of no particular dyscrasia, traceable to no particular vice of constitution, occurring in the healthy as well as in the badly nourished and cachectic, the clinical and histological history of which contains nothing to differentiate it from the atrophic stage of a simple catarrhal inflammation.

II. Is rhinitis ever *ab initio* atrophic? In the absence of direct histological proof of such an occurrence; in consideration of the rapidity with which, in some cases, the hypertrophic variety passes into

the atrophic; in view of the many obvious difficulties in the way of certain historical data in its favor, and in the light of anatomical investigation, I think that for the present, at least, this question must be answered in the negative. The strongest argument in favor of the independent origin of the atrophic form is the alleged occurrence of ozæna in the newly born—that is to say, atrophic changes show themselves at a period too soon after birth to warrant the assumption of a preëxisting chronic catarrhal inflammation. It seems to me that this objection is sufficiently answered by the by no means violent assumption of the previous existence of an intrauterine catarrh.¹

That atrophic rhinitis always appears as the sequel of a preëxisting catarrhal inflammation is rendered highly probable from a number of clinical and pathological facts. If the clinical history be accurately taken, it will point to a preëxisting catarrhal process. As has been indicated above, the rapidity with which the hypertrophic passes into the atrophic form of rhinitis is proportionate, in all probability, to the possession of some constitutional taint, such as the congenital or acquired form of syphilis. The early appearance of atrophy in some cases is dependent doubtless, too, upon certain modes of life and other conditions which influence the rate of progress in simple nasal inflammation in general. I have seen it also occur with rapidity after the profound impression made upon the nutrition of the parts as the result of acute systemic disease. If the patient be not under intelligent special observation from the outset, it may be difficult to establish with certainty the chronological relationship of the two stages; but so far as my observation goes, I have never been able to satisfy myself of the independent origin of the atrophic form.

In this connection, it is worthy to note, that the transition of hypertrophy into atrophy does not necessarily imply the existence of ozæna. I now and then see cases in which the most widespread atrophy has occurred, and in which the capacity of the nasal chambers is greatly increased, in which no

¹ In this way, too, doubtless arise other affections of the nasal passages and throat which are supposed to date their first appearance from or during the birth of the child. To digress still further. It has always appeared to me, that the so-called purulent coryza or catarrh of the newly born, when not the result of gonorrhœal inoculation, may have a similar origin, and does not, as Weber, Fraenkel, and others maintain, arise from infection through the leucorrhœal discharge of the mother. While not absolutely denying the possibility of such an occurrence in certain exceptional cases, I am rather inclined to regard it in the same light that I would the time-honored asseveration of the unfortunate who is absolutely certain that he contracted his clap from "a woman with the whites." It is highly improbable that either a simple leucorrhœal or lochial discharge has the power of exciting a purulent inflammation of the nasal passages, and were experiments made to determine this point, they would probably give the negative result which followed Zweifel's experiments on the conjunctiva with the lochial discharge. Moreover, the nostrils of the child are naturally more or less protected by the mucous secretions of the maternal passages, which, in turn, would serve to dilute to a great extent, should such exist, the irritative qualities of the leucorrhœal matter. In the absence, therefore, of gonorrhœa in the mother, it is more probable that the disease originates at some period of intrauterine life, and not during the transit of the child through the maternal passages. The only argument in favor of Fraenkel's view is the obviously insufficient one, that in such cases the existence of leucorrhœa in the mother may be demonstrated.

odor can be detected, and I have removed portions of membrane from the nose which showed under the microscope marked atrophic changes, in which no symptoms of ozæna, strictly speaking, were present.

How is the fact to be explained, that in some cases in which extensive atrophy has occurred there is an absence of the characteristic odor of ozæna, while in others (exclusive, of course, of preëxisting disease of the accessory sinuses) in which the destruction is less extensive, there is pronounced fetor? It is insufficient here to urge the operation of *ab extra* influences, or the theory of simple decomposition. Does not the presence of the peculiar odor depend rather upon agencies operating within the organism than upon those which approach from without? In other words, is not the atrophy that results from simple inflammation less liable, other things being equal, to give rise to the characteristic stench than that which depends upon constitutional causes?¹

The pathological history of "ozæna" is, moreover, that of the conversion of hypertrophic changes into those of an atrophic form. In the rhinoscopic image, in the microscopic section, the processes of hypertrophy and atrophy are found side by side. More than that; the atrophic changes are more pronounced in situations in which the catarrhal inflammation originally developed. Thus, for example, if the disease originate as a catarrh of the maxillary sinus, the atrophy is more pronounced in the latter situation, the nasal mucous membrane proper presenting evidences of simple or hypertrophic catarrhal inflammation. If, on the other hand, the disease commence in the nasal fossæ, the morbid condition of the sinus, if such exist, is that of simple or hypertrophic inflammation. Finally, as the hypertrophic variety almost invariably commences in the respiratory portion of the nostril, so in the atrophic form, the region of the inferior meatus, the classical seat of atrophy, is the first to be destroyed.

Weighty evidence in support of the position that atrophy is always preceded by catarrhal inflammation, is furnished by the microscope. Here the processes are either found side by side in the section, or portions of the membrane show signs of atrophy, whilst in others, where the process is less advanced, hypertrophic changes are discovered.

I have never had the opportunity of a thorough post-mortem examination of a case of ozæna, but I have found the essential changes described by others—the process of contraction, destruction of glandulæ, etc., in the hypertrophic membrane removed with the snare—a condition of *turbinated cirrhosis*, so to speak, so that I am forced to regard this atrophy of the membrane, which may with propriety be called *rhinitis cirrhotica*, as the sequel of a preëxisting hypertrophic condition. At no stage of the catarrhal or atrophic process have I ever met with ulceration.

III. In this country, the changes in the common catarrhal affections of the nose are most marked in

the area covered by erectile tissue, and are more pronounced in the lower or respiratory region, in the bony nostril than in the vestibule, and in the posterior more frequently than the anterior portions of the nasal fossæ.

These changes have their starting-point in one or more of three different structures, the erectile tissue, the mucous membrane, and, perhaps, the periosteum. The erectile tissue is primarily involved, probably, in those cases in which catarrhal conditions are met with as the result of reflected irritation (doubtless through vaso-motor influences operating, in the first instance, through the constant or repeated erection of that tissue, with subsequent development of trophic disturbances), and it is conceivable that the same result may be brought about through obstruction or other derangements in the local or systemic circulation; in fine, from any cause that does not act as a direct irritant to the mucous membrane. Even in the latter case, the local irritant may, and does in some cases, bring about a similar result through reflex action. A more or less constant dilatation of the erectile cells is thus brought about, which, if kept up, will eventuate, sooner or later, in a paralytic or subparalytic state of the resilient and contractile elements of the intercellular connective-tissue walls.

In another class of case, the process starts from the superficial layers of the mucous membrane, through the irritation produced by foreign substances, the lesions of acute and chronic constitutional or systemic diseases, either through direct infection or through vitiation of the general circulation, and the consequent changes in the nutrition of the mucous membranes. Even in this class, there is always more or less secondary erection of the cavernous tissue.

There is still a third class in which it is probable that the changes in the erectile tissue are secondary to hyperplastic conditions of the perichondrium, as, for example, in the hard dense hypertrophies met with in syphilitic subjects.

Wherever originating, the erectile bodies become sooner or later involved, and the subsequent changes which they undergo constitute the characteristic feature of acute and chronic nasal inflammation. This is the distinguishing mark between it and other inflammatory conditions of the mucous membrane of the respiratory tract, and it furnishes the rational guide to the management of these affections. I wish to emphasize this fact, for it marks an era in nasal therapeutics. That it is not fully appreciated, is evident from the fact that authority often sanctions the use of methods, the inevitable tendency of which is to bring about results directly opposite to those they are intended to accomplish.

UNIQUE CASE OF ABDOMINAL INJURY.

BY W. L. ESTES, M.D.,

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THE following case is so unique in its occurrence and the comparatively few bad immediate symptoms, that the reporter deems it worthy of record, and trusts the readers of THE MEDICAL NEWS will find it interesting, and, perhaps, affording a few points for profitable reflection:

¹ I have shown elsewhere (Congenital Syphilis of the Throat, Amer. Journ. of the Med. Sci., Oct. 1880) that the deeper nasopharyngeal lesions of congenital syphilis are found more frequently among females, a fact which may partially explain the common occurrence of ozæna among young girls at or near the age of puberty.

J. D., a student, aged eighteen years, a well-developed young man—indeed, considered “one of the best general athletes in college,” was practising what is known as the “window jump,” which is an effort to go through a circumscribed square some three or four feet from the floor, by flexing the limbs on the trunk while in the act of springing. In the instance in question, the square was formed on either side by two vertical standards of pretty stout scantling; above by a cord with weights at either end, hung on two pegs inserted into the two standards respectively; the lower side was unfortunately, this time, made by putting a hexagonal pine stick across, and simply resting it on two pegs similar to those above. In attempting to spring through this square with an altitude, I think, of twenty-six inches, the young man struck the stick with his foot, knocked it in front of him, evidently landed on it as he came down upon the floor on the other side, split it in two, turned one fragment endwise up, and *impaled himself on this fragment*. Instead of falling over unconscious and dying, as one would naturally suppose, this young Spartan did not even lose his footing, but clutching the end of the fragment which projected, called upon the director of the gymnasium for assistance. The latter, being within a few feet of him at the time, came, with a number of the students, immediately to his assistance. First of all they laid him on one of the gymnasium mattresses, and the director tried to remove the stick; finding it very fast, however, he at once summoned me, who, by the merest chance, happened to be in the office of the gymnasium at the time. In a few seconds after the occurrence I arrived upon the scene, and found the end of the stick projecting about an inch from the upper part of the left side of the scrotum, tending upwards, and to the right, passing through Gimbernat's ligament, grazing the pubes, and barely missing the spermatic cord, which it pushed upwards. Though pale, the sufferer had a pretty strong pulse, not very rapid, and was perfectly conscious. I immediately began to withdraw very slowly, and with pauses, what soon appeared the almost interminable piece of stick, until the whole fragment was removed. *It was just ten inches long*, and as one inch projected, *nine inches had entered the abdominal cavity*. As I said before, the stick was a hexagonal piece of pine, and originally measured just one inch across, but the fragment had been split to a sort of irregular conical shape, the base measuring $1 \times \frac{3}{4}$ inch, while the apex was $1 \times \frac{1}{2}$ inch, and very jagged at the end which was within. The removal was followed by no hemorrhage, or protrusion of intestine or fecal matter. The fragment, carefully investigated by sight and smell, also failed to show any evidence of fecal contamination. A small shred of fascia, which projected from the small, not very ragged wound, was ligated with catgut and cut off. After waiting a short time, carefully compressing the wound with a clean handkerchief, no hemorrhage, intestine, or feces appearing, and the pulse becoming fuller and stronger, I decided to close the wound at once. Accordingly, I united the edges with carbolized catgut interrupted sutures, again put on the handkerchief compress, and secured it by a figure-of-eight bandage improvised

of towels tied together. The young man now complained of great pain in his right lumbar region, which, upon investigation, proved to be caused by a *second fragment of stick*, one end of which was just under the skin, and the other embedded in the muscles, perhaps extending into the peritoneal cavity. It was clear that the stick had traversed the whole lower part of the abdominal cavity from left to right, and had broken off; one fragment had been removed as related, another remained in the lumbar muscles. Brandy and one-fourth grain morphine were given by mouth, and an ambulance summoned. Upon the arrival of the ambulance the young man, at his own request, was taken to the hospital. His father and family physician being summoned, arrived soon after he was placed in the operating-room at the hospital. The condition of affairs being explained to them, they readily agreed in the proposition to anesthetize the patient at once, and remove the piece of stick from the lumbar region. This was accordingly done. The fragment was four inches to the right of the vertebral column, and three inches above the crest of the ilium. The incision was about two inches long, and the piece was with some difficulty extracted by means of lion-jaw forceps. All splinters were carefully sought for and removed.¹ After the removal of the fragment, the finger following along the channel of exit entered the peritoneal cavity below the lower border of the liver. This fragment measured $4\frac{1}{4}$ inches long, 1 inch broad, and $\frac{1}{2}$ inch thick at its point. So that the whole fragment when put together measured $14\frac{1}{4}$ inches, $13\frac{3}{4}$ inches of which had been driven into the peritoneal cavity, traversing the abdomen as described.

The accident occurred at about 5.15 P. M., the patient arrived at the hospital about 6 P. M.; at 7 P. M. the second piece of stick was removed; at 8 P. M. the patient was sleeping quietly, having reacted entirely from ether, but still under the effect of morphine administered just before anesthesia was commenced. Pulse 80, full, quiet and strong. Surface warm and moist. At 11 P. M. still sleeping, pulse 80, respiration 22, slight perspiration. In order to be sure of no injury to the bladder, the patient was now catheterized. One ounce of clear, limpid urine was withdrawn. During the first forty-eight hours he had a temperature of 99° F. to 101° F. In the afternoon of second day evidences of a localized peritonitis set in, which were easily controlled by morphine given hypodermatically and in very moderate doses. His food was milk and lime-water in small quantities, repeated every two hours. On the third day was quite bright, and complained of scarcely any pain, but had considerable nausea and had vomited a number of times in the last twelve hours. Tympanites not marked, pulse 98, temp. 100° . The bandages on scrotal wound being loose they were changed, when it was found that the wound had healed per primam, without a drop of pus. Compress of carbolized cotton-

¹ This wound was carefully syringed with a 1 to 1000 solution of bichloride of mercury, left open, and a dressing of iodoformized sublimate gauze applied. At this time the scrotal wound was also inspected. There had been no hemorrhage, no ecchymosis, no puffiness or oedema about the lips; so that it was also carefully disinfected, and dressed as the other one had been, stitches remaining *in situ*.

wool applied and figure-of-eight bandage. Fourth day, patient very restless and irritable, though he expressed a desire for food for the first time. Pulse 100, temp. 99.4°. In the evening of this day pulse ran up to 118, but temperature was only 100°. Was still very restless, no pain, nor any marked tenderness over abdomen. Fifth day, patient's irritability and restlessness increased. Repeated hypodermics of morphia scarcely affected him. At 9 A. M. while I was standing by his bedside he had a sudden collapse, became pulseless and gasping, with cyanosis, and cold extremities. By stimulants hypodermically, and warm application rallied somewhat, but remained with scarcely any pulse, and wild delirium most of the time until 7.45 P. M., when he died.

Autopsy, twelve hours after death. The wound in the scrotum united, that of lumbar region very much contracted (had been left open) and covered by lymph. No evidence of suppuration. Upon cutting into the abdominal cavity there was an immediate escape of very offensive gas and dark green fluid having a fecal odor. Peritoneum adherent generally, and everywhere congested. Pus exuded from the greater omentum, which had several ragged lacerations. In the umbilical region the parietal peritoneum and greater omentum were sloughing at numerous small points. In the left iliac region, just to the left of the median line in its beginning, was a canal formed by adhesions of the coils of the ileum to the abdominal parietes and extended downwards and outwards to the crest of the pubis, where the stick had entered the abdomen. This canal was full of thick pus. The coils of the ileum had been lacerated in twenty or thirty places, the lacerations varying in size but nowhere exceeding a quarter of an inch in length. In nearly every instance only the peritoneal and external muscular coats were involved. At two or three places, and these were the largest, the lacerations had involved all the coats but the mucous. Two of these little wounds had sloughed through, and thus the fecal extravasation. The course of the stick had been from the crest of the ilium upwards, just missing the bladder, which was probably empty at the time, crossing the spinal column just above the bifurcation of the left iliac arteries, passed through the mesentery and through, or among the coils of small intestines, probably pushing them backwards and upwards; just over the ascending colon, grazed the right lobe of the liver and gall-bladder, and found its exit at the place specified. Death had occurred from fecal extravasation into the peritoneal cavity, and the perforation of the intestine had doubtless occurred by breaking down of the mucous membrane at two of the places where the other coats had been torn through by the stick, and this rupture had most probably occurred only the morning before death. Besides the most unheard-of manner of the accident, the case appears particularly interesting in the fact that at the time of the occurrence the intestines were not perforated, and the late appearance of any alarmingly bad symptoms. Until the end of the fourth day the pulse and temperature varied very little from the normal rate; there was some vomiting, it is true, but no marked tenderness, or tympanites or pain, notwithstanding the fact that he

received only about 0.06 gramme of morph. sulph. in any period of twenty-four hours, until the last.

In light of the experience and teachings of modern surgeons, some will perhaps ask, Why—immediately after the accident—was not the abdominal cavity opened, and the lacerations sought for and sutured? This was exactly the course which occurred to me as soon as I saw the nature of the injury, and diligently was any sign or symptom sought for, which might lead to a suspicion of present or immediately impending rupture. None was noticed. The condition of the young man was amazingly good after the removal of both fragments, so I reasoned, though the intestines must of a necessity have been injured, these must indeed be multiple, perhaps a large number of small lacerations, yet none of these has actually perforated into the intestine. It is barely possible by perfect quiet to give these various small lacerations a chance to adhere either to the abdominal walls or to neighboring coils of intestines and so close the rents. If, on the contrary, the abdomen be opened and an attempt be made to suture the lacerations, there may be perhaps twenty places to stitch up, and certainly the danger from suturing at so many places is greater—in addition to the extra wound required through the abdominal walls—than that of attempting to help Nature close the little wounds. The event proved that the ilium had been so badly contused, that had all the lacerations been sewed up, and granting the aggregate stitching had not closed the lumen of the gut, nor been followed by fatal shock or peritonitis, still the walls would almost inevitably have sloughed in two other places having no apparent laceration. I believe the pus found in the canal before mentioned, to be due, not so much to septic particles introduced on the sticks, as to autoinfection from the sloughing intestines and omentum. The wounds outside of the abdominal cavity were perfectly aseptic (that of the scrotum had already united).

STATISTICAL ACCOUNT OF THE CAPITAL AMPUTATIONS

PERFORMED AT THE WESTERN PENNSYLVANIA HOSPITAL FROM JANUARY, 1877, TO JANUARY, 1884.

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THE number of major amputations performed at the Western Pennsylvania Hospital in the year ending December 31, 1883, is believed to be greater than in any other hospital in the United States which publishes records of its cases.

The results of these amputations have never been given to the profession in detail, and, with this end in view, tables have been prepared from which the following summaries have been taken. In regard to the mortality, the character of the amputations must be borne in mind. By far the largest number were performed for railroad injuries and injuries due to machinery, etc., where the soft parts were as seriously injured as the bones, and the concomitants of shock,

loss of blood, etc., were important factors in causing death.

Table showing the number of Various Amputations and their Results. From January, 1877, to January, 1884.

PART AMPUTATED.	Primary.	Secondary.	Died.	Cured.	Percentage of Mortality.
Thigh,	15	2	10	7	58 $\frac{1}{2}$
Knee-joint,	5	2	2	5	28 $\frac{1}{2}$
Leg,	50	14	12	52	18 $\frac{1}{2}$
Part of foot, ¹	20	8	3	25	10 $\frac{1}{2}$
Shoulder-joint,	4	3	3	1	75
Arm,	19	4	1	22	4 $\frac{1}{2}$
Forearm,	9	3	2	10	16 $\frac{1}{2}$
Part of hand,	2	2	2	0	0
Both thighs,	4	3	3	1	75
Both legs,	15	1	11	5	68 $\frac{1}{2}$
Leg and part of foot,	3	3	3	0	0
Leg and knee-joint,	2	2	2	0	0
Thigh and leg,	1	1	1	0	0
Arm and forearm,	1	1	1	100	0
Arm and hand,	1	1	1	0	0
Total,	151	34	48	137	25 $\frac{3}{4}$

Percent. of all single amput'ns, 21 $\frac{1}{2}$ per cent. of all double amput'ns, 53 $\frac{1}{2}$ per cent.

From the above table it will be seen that from January 1, 1877, to January 1, 1884, a period of seven years, there were 185 cases of capital amputations, of this number 128 were for railroad injuries. One hundred and thirty-seven of the above cases were cured, and 48 died, a mortality of 25 $\frac{3}{4}$ per cent. Of these 48 deaths, 13 occurred within 24 hours, and 8 within 48 hours. Deducting, therefore, these necessarily fatal cases from the total number of amputations, leaves a mortality of 19 $\frac{27}{100}$ per cent. One hundred and fifty-one of these cases were primary, and 34 secondary; the mortality of the primary was 20 $\frac{21}{100}$ per cent., of the secondary 11 $\frac{1}{2}$ per cent.

There were 28 double amputations, all of which, except one, were performed for severe railroad injuries; 15 of the above died, and 13 recovered, an ostensible mortality of 53 $\frac{1}{2}$ per cent. The fact that out of these 15 deaths eight died within 24 hours, (over 50 per cent.) and three within 48 hours, shows that death was due to the injury rather than to the amputation. Of the remaining four, three died from pyæmia, and one from gangrene of the stumps. The above statement reduces the mortality for double amputations from 53 $\frac{1}{2}$ per cent. to 15 $\frac{1}{4}$ per cent.

The number of single amputations was 157, of which 33 died, and 124 recovered, a mortality of 21 $\frac{1}{4}$ per cent. Of part of foot amputations 14 were Syme's, with 2 deaths;² two Chopart's, with no deaths; six Hey's, with no deaths; three Pirogoff's, with no deaths; two Lisfranc's, with one death;³ and the remainder through metatarsal bones, with no deaths.

¹ Part of foot includes only Syme, Chopart, Hey, Pirogoff, Lisfranc, and through metatarsal bones amputations.

² One death due to internal injuries, and the other to gangrene.

³ Complicated with severe internal injuries.

The following table shows the increase in number of amputations from year to year:

Year.	Amputations.	Percentage of increase.	Percentage of decrease.
1877,	8		
1878,	13	62 $\frac{1}{2}$ per cent.	
1879,	16	23 $\frac{1}{2}$ "	
1880,	14		12 $\frac{1}{2}$ per cent.
1881,	36	157 $\frac{1}{2}$ per cent.	
1882,	46	27 $\frac{1}{2}$ "	
1883,	52	13 $\frac{1}{2}$ "	

The percentage of increase of 1883 over 1877 was 550 per cent.

The following table shows the death-rate for each year:

Year.	Cured.	Died.	Mortality.
1877,	7	1	12 $\frac{1}{2}$ per cent.
1878,	11	2	15 $\frac{1}{3}$ "
1879,	12	4	25 "
1880,	9	5	35 $\frac{1}{2}$ "
1881,	25	11	30 $\frac{1}{2}$ "
1882,	32	14	30 $\frac{1}{2}$ "
1883,	41	11	21 $\frac{1}{3}$ "
Total,	137	48	25 $\frac{3}{4}$ "

HOSPITAL NOTES.

CLINICAL OBSERVATIONS IN THE OPHTHALMIC HOSPITALS OF LONDON.

Reported by L. WEBSTER FOX, M.D., OF PHILADELPHIA.

THE WEALTH OF CLINICAL MATERIAL AT MOORFIELDS.

FROM advance sheets of the annual report of the Royal London Ophthalmic Hospital for last year, we find that the one hundred beds of the hospital have been occupied by 1988 in-patients, and the operations performed by the surgical staff number 3425. The staff of surgical officers have, during the same time, advised and prescribed for 24,238 persons as out-patients, their attendance having been 121,190, or an average of 384 on each weekday. It cannot be otherwise but that this large gathering of clinical material presents a fund for observation and study not to be found elsewhere.

We have been informed that a systematic course of instruction will ere long be inaugurated by several members of the staff. This will draw many students to its walls who, up to the present, have been obliged to go to the continent for instruction in ophthalmology.

THE OPERATIVE TREATMENT OF CATARACT.

The number of cataract operations performed last year was 448; over one-half were extraction by Graefe's method (generally modified). The results obtained—which in the larger number of cases were good—proved that more depended upon the skill of the operator, the physical condition of the patient, and after-treatment, than upon the method adopted. The staff seem to be divided in their opinion as to whether it is safer to perform a preliminary iridectomy in cataract or not. Statistics up to the present give no preference to either method.

Partial antiseptic treatment is carried out in cataract operations. The eye of the patient is bathed carefully

three times daily with a solution of boracic acid—grs. $\text{ij}-\text{3j}$ —two or three days preceding the operation. All instruments used are cleansed in a solution of carbolic acid, one in twenty, or absolute alcohol. After the operation, the eyelids are carefully anointed with vaseline containing one to two grains of sulphate of atropia. Antiseptic cotton and bandages are applied, and are not interfered with for twenty-four hours. At this time, the face is bathed with tepid water, and clean bandages are applied. An examination of the eye is not usually made before the eighth day, unless the patient complains of itching and burning sensations in the eye or underneath the eyelid—precursors of iritis. Then the eyelids are carefully elevated, to apply more directly the atropia solution. If pain continues, from four to six leeches are applied to the temple, with the internal administration of mercury, combined with opium.

CRITCHETT'S OPERATION FOR STRABISMUS

(subconjunctival) is still the favorite one among the older members of the staff. The younger members prefer Graefe's method, on account of exposing the muscle, thereby making certain of a thorough division. A full correction under atropia for the existing hypermetropia is given. Messrs. Lawson and Couper both report favorable results in the partial restoration of vision in amblyopic eyes after squint, by putting the defective eye through retinal gymnastics. The younger the patient, the more favorable the results.

BURROW'S OPERATION FOR ENTROPION AND TRICHIASIS

is the favorite, although recently Watson's operation, modified, has met with much favor. Burrow's operation is thus performed: The lid is everted, and, a horn spatula having been placed between the globe and the lid, an incision is made completely through the tarsal cartilage, about one or one and a half lines from its free border, along the white line always found underneath the lid, and extending from the outer to the inner extremity of the tarsal cartilage, taking care to sever thoroughly the cartilage and all the structures of the lid up to the skin, but not to cut the ciliary margin at any point.

Watson's operation is transplanting the cilia to a point two millimetres above their normal line, and transposing a piece of skin in their place. This skin prevents the lashes from turning downwards, and does not destroy their usefulness.

Van Milligan's operation is splitting the tarsal edge of the lid, and transplanting a piece of mucous tissue taken from the lip.

AN IMPROVEMENT OF BULLER'S SHIELD.

MR. HUDSON, house surgeon, has improved Buller's shield, which is used to protect an eye from its neighbor suffering from an infectious discharge. The shield is made of thin rubber cloth, four by four inches, into the centre of which a small watch-crystal is stitched; this shield is then appended, by thin gauze and collodion, over the healthy eye, the glass crystal allowing the patient to see. On account of the eye being encased in an air-tight chamber, much inconvenience was experienced by the patient; this has been obviated by the insertion of a thin piece of rubber tubing into the air chamber on the nasal side; the mouth of the tube is

fastened to the temple; this allows a free circulation of air about the eye.

PURULENT CONJUNCTIVITIS

is treated by constant applications of carbolic acid solution, one in twenty, and a daily application of arg. nit. grs. x to xx .

PECULIARITIES OF PRACTICE AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

MR. CHARNLEY is using successfully a narrow Graefe's knife (1 mm.) instead of stop needles in the dissection of the capsule after cataract operations. The degenerated tissue in ulcers of the cornea is scraped away with a small scoop devised for the purpose. Ulcer rodens, ramolisement of the cornea, marginal and trephined ulcers seem to respond rapidly to this treatment. In granular lids, with pannus of the cornea, the jequirity treatment has proved satisfactory, although Mr. Lang, of the Middlesex Hospital, has had several cases develop ulcers of the cornea while under treatment. His results have not been so successful as those of other investigators. Hydrochlorate of quinia—grs. $\text{ij}-\text{3j}$ —as an eye-lotion for acute conjunctivitis and catarrhal ophthalmia has many advocates.

TREATMENT OF CONICAL CORNEA AT THE ROYAL SOUTH LONDON HOSPITAL.

MR. A. STANFORD MORTON has recently operated upon a case of conical cornea by the *vertical* incision, a method which he has adopted.

Salina S., æt. 35. History of increasing myopia for ten years. Conical cornea in each eye; the left more prominent than the right; apex of cone opposite centre of pupil. Vision in each eye barely $\frac{20}{cc}$. R. E., J. $\frac{1}{2''}$;

L. E., J. $\frac{2}{2''}$; distant vision improved to $\frac{20}{L}$ (both eyes),

with sph. -5 D. The left eye being the worse, it was operated upon under an anæsthetic. A narrow linear Graefe's knife was used to transfix the apex of the cone from above downwards, passing through the anterior chamber, and leaving about four millimetres between the puncture and counterpuncture. The knife, with its back to the iris, and its edge turned forwards, at an angle of about thirty degrees with the vertical plane, was then made to cut outwards, dividing the cornea. The edge of the flap thus formed was seized with a pair of fine forceps, raised up, and cut off by passing the knife from behind forwards, at a similar angle to that used in cutting out in the first incision; an elliptical, vertical piece of cornea was thus removed. Atropia solution—grs. $\text{iv}-\text{3j}$ —was applied to keep the iris from becoming engaged in the wound, and the eye firmly tied up. The eye was not molested other than to apply atropia and change the bandage. In a little over a fortnight, the aqueous was retained. The leucoma left by the operation gradually disappeared, until vision improved to J. $\frac{1}{12''}$ at $\frac{20}{XL}$, with hypermetropia of 2 D.,

which, when corrected, gave $\frac{20}{XX}$, or perfect vision.

After some time, the right eye was operated upon in a similar manner, without benefit; but upon a repetition

of the operation, vision was finally $J. \frac{1}{14''}$ and $\frac{20}{xxx}$, partly with the necessary correction of sph. + 2 = cyl + 2.50 cx 90°. We were shown the patient, and the operation was highly successful. There is no claim of novelty in this operation; but its value is demonstrated by the high myopia being replaced by hypermetropia of two dioptries.

At this hospital,

RETINOSCOPY

finds its ablest demonstrator. Mr. Morton was the first to render this subject intelligent to the English-reading student in his small work on "Refraction." Its practical application is as follows: Place the lamp immediately over the patient's head, and yourself about four feet from the patient; then let him look at the small aperture in the mirror of your ophthalmoscope, which is held before your eye (an eight-inch-focus mirror is the best, and patient's pupils should be dilated with atropia or homatropia, to make an accurate diagnosis). Now rotate the mirror from side to side, and observe the shadow on the patient's fundus oculi; if it follows the direction of the mirror, the eye is myopic; if in the opposite direction, the eye is hypermetropic. In compound hypermetropic astigmatism, we have a more pronounced shadow in our meridian than in the opposite; same in compound myopic astigmatism. In mixed astigmatism, the shadow moves with the mirror in the myopic meridian, the opposite in the hypermetropic meridian. To ascertain the amount of error, place a trial spectacle-frame on the patient's nose, and place in it concave or convex glasses, in an ascending or descending series, until the shadow either ceases to be perceived or moves in a reverse direction. In the latter case, the defect has been overcorrected, and a weaker glass must be substituted until the shadow again becomes ill-defined. The patient is now made emmetropic. The number of glass before his eye is the measure of his refraction to probably within a quarter of a dioptric. By examining the two meridians of the eye in the same way, the amount and angle of astigmatism can be ascertained.

MEDICAL PROGRESS.

THE CHANGES IN THE NERVOUS APPARATUS OF THE INTESTINAL WALL IN PERNICIOUS ANÆMIA AND GENERAL ATROPHY.—SASAKI (*Virchow's Archiv*, Bd. xcvi. Hft. 2, 1884) believes that the gastro-intestinal form of pernicious anæmia, depends upon anatomical lesions of the nervous structure of the intestinal tract. In one case of this kind he found sclerosis of the ganglion cells, with subsequent destruction of them, decrease in size of the nerve-fibres, and very many bright homogeneous bodies of hyaline character, in Auerback's and Meissner's plexuses. In another case fatty degeneration had taken place, extending to the muscles.

In localized affections of the intestines, as typhoid fever, catarrh, etc., a similar degeneration was found in many cases, but it was limited to the vicinity of the diseased portion of the intestine. Sasaki believes, therefore, that neurotic atrophy of the whole intestinal tract lies at the bottom of these conditions, and causes the general disturbances of nutrition.—*Centralbl. für klin. Med.*, August 9, 1884.

THE ELECTRICAL REACTION OF THE OPTIC NERVE AS A MEANS OF DIAGNOSIS BETWEEN SIMPLE AMBLYOPIA AND OPTIC NERVE ATROPHY.—DARRIER has recently reported the results of his experiments with the galvanic reaction of light as a diagnostic means between simple (especially toxic, congenital, hysterical) amblyopia and degenerative atrophy of the optic nerve. For this purpose he uses a small battery of 8 or 9 elements, and a conductor sensitive to $\frac{1}{10}$ milliampère; the positive pole, a small plate, is placed in the middle of the forehead, equidistant from each eye, and held in place by a rubber band; the negative pole, olive-shaped, is placed on the upper and outer segment of the eye which is to be irritated, and is supported by the wall of the orbit.

Darrier first used a current from several elements, which caused distinct flashes of light (reaction R_1); and then gradually reduces the current until it is not felt by the skin, and only causes weak flashes of light at the closure of the circuit, none at the opening (reaction R_2); the second reaction is the important one, and never, with healthy persons, requires more than $\frac{1}{10}$ milliampère, or a current of 1-2 elements, and is sufficient in cases of simple amblyopia; but in atrophy of the optic nerve, sclerosis in connection with disease of the cord, neuritic, hemorrhagic, or embolic atrophy, or that connected with glaucoma, a strong current of from 3-8 elements (10 milliampères) is needed. Darrier believes, therefore, that the electrical optic reaction may be of very great service in ophthalmology in determining the diagnosis and prognosis.—*Centralbl. für klinische Medicin.*, Aug. 9, 1884.

OPERATIVE TREATMENT OF PULMONARY CAVITIES.

—DR. E. BULL, of Christiania, in a paper read at the late meeting of the International Medical Congress, laid down the following propositions:

1. Abscesses of the lung, which can be diagnosed with certainty, and are so situated that they can be opened through the chest-wall, should be treated in the same way as pleural empyema.
2. The condition is the same with regard to limited gangrene of the lung. If several gangrenous foci exist, each one must be treated separately.
3. Echinococci, and 4. foreign bodies in the lung are to be treated in a similar manner.
5. In bronchiectasis the formation of a pulmonary fistula is indicated only when the accumulation of stagnant matter in large cavities essentially contributes to the deterioration of the patient's condition.
6. In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with the view of improving the condition of the patient.
7. The operative puncture of a pulmonary fistula is justifiable as a palliative measure.
8. In cases where diagnosis cannot be arrived at, exploratory puncture is certainly of much value; positive as well as negative results may be derived from it.
9. Adhesion of the layers of the pleura ought not to be insisted on as an absolutely necessary preliminary to the opening of pulmonary cavities.
10. Amyloid degeneration is not an absolute contraindication to a palliative operation.
11. The use of the thermo-cautery is to be recommended both for the opening of cavities, and for the destruction of diseased portions of lung-tissue.—*British Medical Journal*, Sept. 6, 1884.

PAPAYOTIN.—PROF. FINKLER has recently experimented on a specimen of papayotin obtained from South America. Preparations of this specimen dissolved one thousand times the weight of fibrin in a short time, the digestion taking place in acid, alkaline, and neutral media, and in water; most rapidly in the last. This last property makes it especially valuable for use in rectal alimentation, since the reaction of the secretion of the large intestine will exert no unfavorable influence upon the action of the ferment. The digestion of albumen took place at 40° C.

Papayotin rapidly causes a solution of diphtheritic membranes, so that they are thrown off, or can be easily removed. After the solution of the membrane the temperature falls rapidly. Professor Rossbach says that one who does not use papayotin for dissolving croupous or diphtheritic membranes either treats his cases badly or has no papayotin. It acts very favorably in cases in which the larynx and trachea are invaded by the membrane. Rossbach also asserts that the action of papayotin on the membranes causes a decline of the fever in these cases.—*Medicinisch-Chirurg. Centralbl.*, Aug. 29, 1884.

TREATMENT OF HÆMATEMESIS DUE TO ULCER OF THE STOMACH.—DR. R. STITZING, of Munich, says that the first and most important indication in these cases is to put the patient to bed and give him complete rest. He should not even be allowed to converse much. If necessary, narcotics should be used hypodermatically. As regards diet, the patient should take nothing but fluids for the first few days; and small pieces of ice should be swallowed; at the same time an ice-bag should be placed on the epigastrium. Iced milk should be taken for the first two or three days. Von Ziemssen advises against the administration of medicine at the beginning of the treatment, and especially against the use of astringents, as they tend to coagulate the blood which escapes from the ulcer, and cause vomiting. After the third or fourth day small quantities of lukewarm meat broth, in which some starch is mixed, should be given every three hours. Teaspoonful doses of cool, strong wine should also be given, champagne being especially indicated. After the sixth or eighth day other easily digested food may be taken, and a mild course of mineral water, such as Carlsbad, may be begun. Constipation should be treated with enemata only; cathartics are contraindicated under all circumstances.—*Medicinisch-Chirurg. Centralbl.*, August 29, 1884.

CONVALLARIA MAIALIS IN HEART DISEASE.—DR. BOGOJAVOLSKI, of St. Petersburg, has recently made a number of experiments as to the effect of convallaria when administered hypodermatically to frogs; it was observed that the heart's action became slower, and the ventricular systole more energetic. By increasing the dose an apparent state of tetanic contraction of the heart was caused, and during the toxic period the excitability of the pneumogastrics was exaggerated. In experiments on dogs he found that the number of cardiac contractions was lessened by irritation of the pneumogastrics, and afterwards that the pulse was accelerated by paralysis of the pneumogastrics.

After quite an extensive trial of convallaria in cardiac

cases, Bogojavolenski agrees with Sée, in the following indications for its use:

1. Palpitation resulting from a state of pneumogastric depression, or paralytic palpitation; simple arrhythmia with or without hypertrophy of the heart, and with or without lesions of the orifices and valves.

2. Mitral stenosis, especially when accompanied by a defect of compensation in the contractile force of the left auricle and ventricle; the sphygmographic tracings show that the contractile force is markedly increased.

3. In insufficiency at the mitral orifice it is especially valuable when pulmonary stasis is threatened, and when dyspnoea occurs from the passive congestion, with or without nervous troubles of respiration.

4. In aortic insufficiency its favorable effects may be easily seen. It is especially indicated when there is not compensatory hypertrophy of the left ventricle; and it increases the force of the heart when it tends to become weak and dilated.

5. In cardiac dilatation, with or without hypertrophy, with or without cardiac degeneration or sclerosis of the muscular structure, it is indicated.

6. It is indicated in all cardiac affections in which there is a tendency to dropsy. [For valuable suggestions as to its use, see *The Amer. Journ. Med. Sci.*, Oct. 1884, p. 551.]—*Gaz. Med. di Torino*, July 25, 1884.

SPLENECTOMY IN THE RABBIT.—DR. G. TISSONI has performed total extirpation of the spleen in rabbits eighteen times, the animals being kept under observation for eight months. He found that they bore the operations well, and suffered no disturbance of function either as regards nutrition, growth, or propagation of species. Only in young and growing animals were red blood-corpuscles with nuclei and nuclear cells in large numbers found in the medullary cavities of the bones. Nothing of pathological interest was found in the thymus gland or in the development of the thyroid gland.—*Centralb. für klinische Med.*, Aug. 30, 1884.

THE OPERATIVE TREATMENT OF CARIES OF THE TEMPORAL BONE.—JACOBY reports sixteen cases in which he operated for caries of the temporal bone by opening the mastoid process. Two other cases were treated without operation because the patients could not have the advantage of the after-treatment; and it is worthy of remark that one recovered in spite of an attack of pyæmia due to retention of pus. The other died of secondary tuberculosis of the lungs.

Of the sixteen cases operated upon, there were eleven in which the bone affection was secondary to acute purulent inflammation of the middle ear, and only four in which it was consecutive to chronic purulent inflammation. The remaining case was one of traumatic suppurative osteitis of the mastoid process following otitis media. Of the eleven cases, two occurred as sequelæ of scarlet fever; the other nine were idiopathic. Of the sixteen cases the majority had fistulæ of the mastoid process, in two cases there was no change of the mastoid, no fistule could be found in two cases, and in one case it was enlarged and very sensitive to light percussion. Three of the cases were fatal, in spite of the operation; one death being due to chloroform. The time at which complete recovery ensued after the operations varied from six weeks to one year.—*Centralb. für die med. Wissensch.*, August 9, 1884.

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THE SURGERY OF UTERINE MYOMATA.

At the recent meeting of the International Medical Congress, at Copenhagen, DR. KÖEBERLÉ, of Strasbourg, and DR. WIEDOW, of Freiburg, read valuable papers on the treatment of myomata of the uterus, respectively, by laparotomy and oöphorectomy, abstracts of which, as well as of the discussions which the papers elicited, may be found in the *Centralblatt für Gynäkologie*, for September 6. As the subject is one of great importance, and as the discussions contain the latest views of eminent gynecologists, its more salient points will doubtless be of interest to our readers.

The indications for laparotomy depend, in the opinion of Köberlé, upon excessive and prolonged hemorrhage; rapid and continuous growth of the tumor; the age of the patient—the further off the menopause the greater the necessity for resorting to it; the seat of the neoplasm—those present in the lower segment of the uterus and in the broad ligaments affording a bad prognosis; and, finally, special conditions, as when the tumor renders life a burden. The contraindications are extensive vascular adhesions between the growth and wall of the abdomen; impaction of the tumor in the pelvis; the increase and rapid reproduction of ascitic fluid, if any happen to be present; concomitant incurable disease; and existing affections which might compromise the result.

Sir Spencer Wells, Knowsley Thornton, Olshausen, and Martin rejected all of the contraindications except the last two, along with malignant disease, which, however, was not really a point for debate. In closing the discussion, Köberlé stated that his conclusions in regard to ascites and vascular adhesions were not absolute.

The operative methods vary in accordance with the configuration, size, and seat of the myoma. In polypoid growths, the peduncle is tied and dropped into the peritoneal cavity. The relatively small, circumscribed, senile tumors may be enucleated, and the wound closed with deep sutures, although the latter do not effectually guard against hemorrhage. Large myomata are only amenable to partial or total hysterectomy. In the subserous and interstitial varieties, as well as in those which project into the cavity of the uterus and cannot be removed by the vagina, Köberlé isolates the uterus on each side with a row of deep sutures, applies two metallic threads to the cervix, which are tightened with *serre-nœuds*, removes the tumor, and fixes the stump in the abdominal wound. In about fifty operations of this kind, he has had a mortality equal to that of ovariectomy with the extraperitoneal method of dealing with the stump, but he does not drop the stump for fear of hemorrhage. When the tumor is developed in the broad ligament, the operation is almost invariably fatal, so that he resorts to removal of the ovaries in that class of cases.

In the discussion which followed, Sir Spencer Wells, Sänger, and Olshausen declared themselves in favor of the intraperitoneal method of dealing with the stump, the first preferring the silk ligature and the last two the elastic ligature. Hegar, Kaltenbach, and Thornton, on the other hand, asserted that the extraperitoneal method afforded the best results, and Hegar accused the elastic thread of not infrequently giving rise to the formation of an abscess, while Kaltenbach stated that it readily excited necrosis of the stump. All of the speakers rejected drainage.

Wiedow has collected 149 cases of oöphorectomy for uterine myomata, of which 17, or 11 per cent., perished. In only 49 of these cases, however, had he been able to trace the histories for at least one year after the performance of the operation, his aim being to discover the influence of castration upon the cessation of hemorrhage and upon the atrophy of the tumor. The results secured were both objects in 36, the menopause in 3, diminution of the size of the tumor in 1, atrophy of the growth with slight regular or irregular bleeding in 8, and slight hemorrhage at intervals of three months in 1.

He also endeavored to show whether and how the result was modified by the seat and size of the tumor. In 2 cases of myoma of the cervix, the hemorrhage and other troubles ceased, and in 1 the volume of the growth was reduced. Of 12 cases in which the tumor reached as high as the umbilicus and even above that point, the menopause and atrophy resulted in 10, irregular slight bleeding occurred in 1, the tumor not being materially diminished, and in 1, after the menopause had been established for several

months, there was regular bleeding, along with reduction of the size of the tumor.

From these excellent results, Wiedow concludes that large size of the growth is not a contraindication to oöphorectomy, and that it is preferable to myomotomy in that class of cases. He, moreover, thinks that the latter operation should be restricted to fibrocystic tumors and to pedunculated subserous growths. These views were endorsed by Hegar and Howitz, while Thornton thought that removal of the ovaries should not be resorted to for growths larger than a child's head.

DR. APOSTOLI, of Paris, directed the attention of the Section to the electrical treatment of myomata. He uses the constant current of high intensity, reaching even one hundred milliamperes, and applies the active pole to the cavity of the uterus. From an experience with more than one hundred cases, he declares that the tumors diminish in volume, although they do not entirely disappear, and that the general health is fully reestablished.

SUBCUTANEOUS ECCHYMOSES OF NERVOUS ORIGIN.

A VERY interesting article on this subject by DR. TH. KELLER, may be found in the *Revue de Médecine*, for August, 1884. Straus published, in 1881, in the *Archives de Neurologie*, a memoir upon subcutaneous effusions of wasting disease, entitled "Des Ecchymoses Tabétiques." Numerous cases have been from time to time narrated, in which effusions occurred under the skin in both sexes, in connection with nervous affections, such as hysteria, hysteropilepsy, extreme mental emotion, cerebral apoplexy, and epilepsy, while in other cases concurrent conditions of any kind are absent. In a thesis by Faisons, in 1882, it was shown that certain affections of peripheral nerves, numerous alterations of the cord, myelitis, tubercular meningitis of the cord, and cancerous disease, give rise to subcutaneous hemorrhages in the form of ecchymoses and purpura. For a form of generalized purpura of which the anatomical substratum is a diffuse lesion of the cord, Faisons proposes the name myelopathic purpura. In one case of Keller's the hemorrhagic tendency always succeeded the use of Vichy water, which the patient was obliged to discontinue in consequence.

Keller reports five cases in the article referred to, all in women, and the ecchymoses were of an intermittent character, and occurred in different parts of the body, as the face, neck, arms, trunk, and thighs. The ecchymoses were almost always accompanied by a pricking or burning sensation which is ascribed to the irritation of the nerve-filaments at the moment of diapedesis.

The phenomena are explained by a permanent influence exerted upon the vaso-motor centres, cortical and spinal, more particularly the latter. This

influence results in dilatation of the vessel walls, and either active or passive diapedesis. This view is supported by the recent experiments of Hitzig, Eulenberg, and Landois, who have demonstrated in the fronto-parietal convolution of the cortex, vaso-motor centres whose destruction produces an increase of temperature of from 9° F. to 12.5° F. on the side opposite the lesion. No congestion or diapedesis of the kind described resulted from these experiments, but, taken in connection with the subcutaneous ecchymoses noted by Charcot in cerebral apoplexy, a reasonable interpretation of the phenomena is thus given.

Dr. Keller seems to have been able in some cases, at least, to have cured this tendency to ecchymoses by the cold douche and other treatment incident to hydrotherapy.

PUBLIC LAUNDRIES AND BATHS.

THE establishment of public laundries and baths for the accommodation of the poor is an important means of promoting the public health, and, therefore, deserves to be encouraged, if not supported, by the local government. The housing of the poor is not the serious question here that it is in most European cities. Comfortable homes are provided in great numbers, which have the necessary conveniences for cleanliness and domestic work, but they are not within the reach of large numbers of the population, who have to content themselves with accommodations of the most inferior kind. One or two rooms must suffice for a family. The washing of clothes, cooking, and all other domestic work is performed in the apartments used for living and sleeping. Under the circumstances home comforts are banished, and health—the main dependence—is jeopardized. For such people the public laundry and bath would be a great boon. The disagreeable operations of washing and drying clothes could be transferred from the dwelling and sleeping apartments to an establishment fitted up with every convenience to facilitate the work, to which the wife could have access a certain number of hours upon the payment of a small fee. The moral effect of extending such a privilege to the poor would be very great.

The public bath system admits of a still wider field of application. Wherever a swimming-bath has been established, its extensive patronage proves the need of such accommodations. Swimming-baths should be established not only as promoters of cleanliness, but as excellent means of healthy exercise. It would be well if these aids to health could be continued the entire year, but when this is impracticable they should be substituted by private baths which should be placed within reach of the poor by charging only a small fee. The Badeanstalt, established this summer in Cologne, one of the most complete

and largest on the continent of Europe, is an illustration in point. It contains a workman's swimming-bath, the charge for a bath being not over three cents. The supply of water is continuous. Men following dirty employment are compelled to perform a preliminary ablution with soap.

The public baths in Germany are probably more elaborate and complete than anywhere else. In all the principal towns these conveniences have been opened or are in course of erection. The same may be said of England. Public baths are now being built in Dublin at a cost of \$25,000. France is not behind her neighbors in providing for the wants of the people in this respect. Swimming-baths are found in towns, small and large, standing on the banks of a river, and their use is in some cases gratuitous, while in others a small charge is made. In our cities the same liberal provision has not been made for the wants of the people. It is not needed in the case of persons in comfortable circumstances, as they can afford to have and do have private bathrooms in their homes. But the poor suffer in their health from being deprived of the advantages of the bath, and for them provision should be liberally made.

The cost of the erection of these establishments need not be great, and that of their maintenance would be trifling compared with the benefits bestowed. The obligation of the municipality to incur such an expense is derived from the duty to use every reasonable means for the promotion of the health of the people. What has already been done in this matter has been very successful, and encourages renewed efforts to extend the system to its widest and most useful application.

PROFESSIONAL PERSONALITIES.

THE use of personalities in professional discussions, is in most respects disadvantageous and injurious to the party who seeks their aid. A weak man uses personalities because of his poverty in knowledge and thought, or a strong man may, for the purpose of diverting attention from the intrinsic weakness of the cause he presents, but most frequently they are the expression of passion, or of great egotism. A man is indignant at a rival in place, or in reputation, and so utters harsh or bitter words against him, or he holds an exaggerated opinion of his own views and practice, and therefore condemns those who dare dissent. We may here remark as to the latter point, that the man who devises a plan of treatment, medical or surgical, is very apt to think it more valuable and important than it really is; just as many parents think their own children prettier and better than those of others.

The use of personalities gives in many, if not in all cases, unnecessary pain to the party referred to: few men have such perfect equanimity that they can

be indifferent to unjust things, as they believe, harshly said of them, and the shafts of ridicule rarely fail to wound. Moreover, there probably comes to most men who indulge in personal abuse a time when they bitterly regret the pain, the alienation of feeling, if not the actual hostility, which they have caused, and would gladly recall every unjust, harsh, or unkind word they have uttered.

Even supposing the party assailed is clearly in the wrong, will he or his friends be converted by a coarse assault? It would be better than this to follow Hood's advice:

"Mid light, and by degrees should be the plan
To cure the dark and erring mind;
But who would rush at a benighted man
And give him two black eyes for being blind?"

Personalities may sometimes give a piquancy to an address, an essay, or a discussion—they may for the moment amuse—but they do not give strength to an argument, and the general sentiment of the profession condemns them. Usually they weaken even a good cause, and at once create a sympathy for the party attacked. St. Francis de Sales, called by Leigh Hunt "the Gentleman Saint," said, "It is better to remain silent than to speak the truth ill-humoredly, and so spoil an excellent dish by covering it with bad sauce."

The temptation to severity of language and bitter sarcasm may be great in the excitement of a public address, and they may be greeted with applause, but the sober second thought of even those who applaud, censures. Those who have the most wisdom are the most humble, and those of the largest hearts are the most kind; the former cannot be dogmatists, and the latter cannot inflict needless, and therefore cruel wounds; for, as a French proverb has it, a wound of the tongue is often worse than that of a lance.

Personalities oftentimes divert from the real point at issue, and thus hinder professional progress. They degrade rather than elevate the profession; they beget rudeness rather than refinement, coarseness more than delicacy, and evil rather than good. Differences of opinion in questions of medical theory and practice exist, and must continue, we fear for a very long time. Let individuals be lost sight of in the calm discussion of their opinions, and personalities be relegated to the class of politicians, who are so numerous to-day and whose life would be, like that of some microbes, impossible except in foul, decaying matter.

THE APPLICATION OF THE FORCEPS IN HEAD-LAST LABORS.

THIS subject is briefly considered in a report of the Griefswald Klinik and Poliklinik made by Drs. BEUMER and PEIPER in a recent number of the *Archiv*

für Gynäkologie. They believe the indications for the use of the forceps in head-last labors to be four, namely, 1, the departure of the chin, or its becoming fixed behind the pubic symphysis; 2, slight disproportion between the head and the pelvis; 3, cramp of the lower uterine segment; and 4, the ascent of an arm, or its becoming fixed behind the neck so that it is impossible to restore it to its normal position, and the impossibility of extracting the head and arm together. They very justly remark that the first is the most frequent indication for the forceps operation; in their experience this operation became necessary in eleven cases of podalic version, and the results were most satisfactory, for all the mothers and children were saved.

Possibly the importance of the forceps for the delivery of the after-coming head has, in recent years, not been sufficiently appreciated. Among American obstetricians, the late Dr. Meigs especially urged it, and he asserted that it was his invariable rule to have the forceps in readiness in every instance in which he discovered that the head was to be born last.

SPECIAL ARTICLE.

INTERNATIONAL ELECTRICAL EXHIBITION, PHILADELPHIA.

[THIRD NOTICE.]

WITH the advance of electrical science the improvement in test-instruments has been a necessity. There are several fine displays of these instruments at the Exhibition, and the light which they shed upon the question of current measurements in electro-therapeutics is important. The instruments shown are chiefly those used for telegraph wires and cables, for taking the resistance of insulators, and for electric-light circuits and other commercial purposes. They are, of course, not adapted to medical purposes either in price or adjustment, but their principles are. The necessity for more exact work in electro-therapeutics has become apparent. De Watteville, whose recent work is the most scientific expression of the whole subject, says that "it is of paramount importance that we should have a thoroughly clear understanding of the strength of the current and its measurement." The Exhibition gives to medical men unusual facilities for making themselves acquainted with the general science of test-instruments; and to instrument-makers furnishes a hint, which they ought not to ignore, how to modify these mechanisms to the demands and prices of physicians. Exhibitors say that they could be made much cheaper if the demand for them was greater.

There have been attempts made to supply the want. An excellent little galvanometer, made expressly for medical uses, is shown by Queen & Co. It is Edelmann's galvanometer, with a scale graduated to the milliampère, which is the best unit for medical tests. The instrument has that most important feature—it is "dead-beat." That is to say, the needle goes direct to its proper place and stays there without any of the

annoying to-and-fro movement which is seen in the usual galvanoscope. It was tested last week in the exhibition on one of Flemming's key-boards, and acted most satisfactorily. With cells each of about one and a half volts, the current passing through the human body, the needle was perfectly sure and steady, pointing out in milliampères the current-strength as additional cells were thrown into circuit.

The Bailey testing apparatus is a very convenient form. It contains a galvanometer—which is possibly not as perfect as Edelmann's—and a set of resistance-coils, all in a small box. The instrument so far has been made to measure to not more than 2000 ohms resistance.

The rheostats exhibited are, without exception, we believe, resistance-coils. There seems to be no need for any other—the water-rheostat not being comparable with the coils, unless in the matter of cost. This latter consideration is, to be sure, important; a fine set of resistance-coils, with a Wheatstone bridge arrangement being very expensive. But these have not yet been modified to the physician's use.

A very fine instrument for physiological work is Sir Wm. Thomson's reflecting astatic galvanometer. This beautiful apparatus has a needle which carries a small mirror, the light reflected from which falls upon a scale at some distance. This needle is so delicately adjusted that it is, as the name implies, *astatic*—very movable to the slightest electric current. It has been used in physiological laboratories for detecting the natural currents flowing through muscle and nerve.

We have seen no voltmeter at the exhibition of the kind described in some of the text-books, which measures the volume of hydrogen gas set free by the current. Such an instrument finds its best use in calibrating, and is at best a clumsy affair for the electro-therapeutist. The voltmeters displayed are more elaborate and not adapted to medical wants. They are, apparently, a special form of galvanometer.

There are several displays of storage batteries; which form of electrical reservoir may come in time to have great interest to physicians. It is, as yet, entirely too cumbersome to be of use, except in rare cases. We are informed that the Brush Company have fitted up a cell for an electro-cautery which has been successful. As the great desideratum is to obtain an electro-cautery battery which is portable by hand, it is difficult to see how these ponderous cells, each weighing fifty pounds, offer inducement for even a trial. They are valuable for lighting purposes; and their utility can be seen in the reporters' room, which is illuminated entirely by them.

An interesting exhibit is made by the Telemeter Co., of N. Y. The object of their instrument, in its numerous applications, is to transmit to a distance the indications of any dial-hand or needle. The uses to which it is put are varied. A thermometer in a grain-elevator will indicate and register all its diurnal variations in a distant office; so a barometer can be read at any time by telegraph at a remote station; the temperature of the sea is made known constantly on the deck of the steamer, and the pressure on the boilers may be seen at a glance by a superintendent who is far away from them. This is all done by a quite simple arrangement of magnets and escapements and a few cells. It has been fitted up in hospitals, where it will no doubt

prove useful in helping the steward to know the temperature of his wards and the vigilance of his engineer.

Flemming, of this city, has a very creditable display of medical batteries, and offers some improvements which will, no doubt, be novelties to many physicians. His universal battery supplies the constant and induced currents, and also the current of small internal resistance for the galvano-cautery. By an ingenious commutator he changes the combination of his elements from a compound circuit (where zinc and carbon are joined alternately) to a simple circuit (where all the zincs are joined and all the carbons). He thus secures the same effects as with a few large plates, and obtains a very good cautery. This appears to be an excellent device. Another invention is the automatic *galvanic* interrupter. This is a modification of his slow faradic interrupter, the long arm of which is still swung by a Grenet cell and magnet, just as when the induced current is being used; this arm, however, has projecting over it a short beam, which it touches in every ascent, and through this beam the galvanic current is made and broken. It has the advantage of being automatic, and of having a wide range of movement from a very few to a great many contacts a minute. Flemming's modification of the Siemens-Halske commutator, or pole-changer, is a great improvement—although not a novelty—and ought to be on every key-board. It admits of a perfect *break* in the circuit, which the other pole-changer does not. Its mechanism can be seen at a glance. This is an important feature in the present method of studying polar reactions, and seems to us a better device than any other for most cases. By making one turn of the disk all four polar effects are obtained. The work of this manufacturer is marked by its well-known neatness and durability.

SOCIETY PROCEEDINGS.

INTERNATIONAL MEDICAL CONGRESS.
COPENHAGEN, AUGUST, 1884.

SECTION OF OBSTETRICS AND GYNECOLOGY.

TREATMENT OF UTERINE MYOMATA BY LAPAROTOMY.

PROF. KÖEBERLÉ, of Strasbourg, said that the operative methods and indications in cases of fibro-myoma were even at the present time the subject of controversy. The indications resulted from the gravity of the state of the patient in consequence of excessive or prolonged catamenial hemorrhage, or from the rapid or continued increase of the tumor, and from the age of the patient, from the seat of the tumor, and from special circumstances, as when life became unsupportable from the troubles caused by the tumor. Operation was contra-indicated when there were extensive vascular adhesions to the abdominal walls, or when the tumor was very large and had too extensive connections; when it was enclosed in the pelvis; when there was ascitic effusion liable to increase, and to be reproduced quickly; or when there was some concomitant incurable affection, or some circumstance which might exercise an unfavorable influence on recovery. The operative method varied according to the seat and size of the tumor. Uterine fibro-myomata should be operated on by the vaginal method, in cases where they formed a more or

less prominent swelling in the uterine cavity and toward the vagina, when the size of the canal allowed extraction in this way. Fibro-myomata, projecting into the uterine cavity, and immovable by the genital canal, as well as interstitial and subperitoneal tumors, were capable of removal by laparotomy. Prof. Köberlé spoke on hysterotomy and hysterectomy, and gave general rules for their operation. He stated that the result was very favorable when the tumors were developed in the body of the uterus. The operation was difficult and grave when the tumors were developed in the broad ligaments, and deeply embedded in the pelvic cavity. The reunion of the abdominal wound, dressing, and antiseptic treatment were next passed in review. Prof. Köberlé concluded his paper by affirming that the treatment of uterine fibro-myomata by laparotomy constituted a real progress in contemporary surgery, and merited in every way serious consideration.

ELECTRIC TREATMENT OF UTERINE MYOMATA.

DR. APOSTOLI, of Paris, proposed a new electrical treatment of uterine fibromata, distinguished by its point of application, nature, intensity, and its manual mode of application. To the old procedure of the application of continuous currents to the cure of fibrous tumors—characterized (1) by very feeble electrical intensity; (2) by the vagina being oftenest the point of application of the positive pole—he opposed a treatment always more active, since it reached one hundred milliamperes of intensity, and was always intrauterine, acting along the whole depth and extent of the uterine mucous membrane. A clinical experience, extending over two years, upon over one hundred cases, had shown that the treatment constantly reduced the size of the uterus, and completely restored the patient.

DR. P. MÉNIÈRE, of Paris, advocated the

DESTRUCTION OF UTERINE TUMORS BY ELECTROLYTIC PUNCTURE.

This was an operation which was effectual and of little danger, provided that it were practised, not by the vagina, but across the abdominal wall. It was indicated—(1) when medical treatment had failed; (2) where the fibromata were very large, and also only slightly movable; (3) when they endangered the life of the patient by continuous metrorrhagia or grave general trouble; (4) it was a final resource in cases where total removal was impossible. This operation had already been practised by Cutler, in 1871; Broure, in 1873; Kimball, in 1874; Ciniselli, in 1875; and Semeleder, in 1876. But their operative procedures differed, were very vaguely described, and were little known in Europe. In face of the marvellous results which he had got in six cases, the results of which were indelibly fixed in his memory, it seemed to him to be of interest and useful to call the attention of the Congress to this point of gynecological therapeutics, and particularly to the manual method of procedure, on which he had, after numerous trials, finally settled. The instruments employed were: (1) a battery of the continuous current of Gaiffe, with twenty-four pairs of zinc-plates, and galvanometer divided in milliamperes; (2) gold needles, ten centimetres long by a millimetre and a half thick, flattened and pointed at their extremities (of lance-shape, with cutting edges); they were isolated for a

length of seven centimetres by means of resinous varnish, dried and calcined in the flame of a spirit-lamp; (3) a needle propeller, with a graduated stop-notch, so as to insert the needles to a depth previously fixed upon; (4) light and flexible conducting wires, joined to the needles by means of a *serres fine*. The operation was, he said, repeated twice a week, or every ten days, in case of inflammatory accidents; the sittings lasting twenty minutes, from the insertion of the positive and negative electrodes to the depth of eight centimetres. A current of from forty to fifty milliamperes was used; and, after the extraction of the needles, the cutaneous orifice was closed with collodion.

DR. MARGARY, of Turin, advocated supravaginal amputation of the uterus from the vagina as a treatment for fibromata in the posterior uterine wall.

OÖPHORECTOMY FOR UTERINE TUMORS.

DR. WIEDOW, of Freiburg, said that he had collected the cases in which removal of the ovaries had been performed for uterine tumors, partly from published records, partly from private information. Through the friendly coöperation of a large number of German, Austrian, and Swiss practitioners, he was able to arrive at conclusions as to the lasting influence of the operations, and the subsequent condition of the patients on whom it was performed. The principal point was to show the influence of the operation on the cessation of hemorrhage, and on the diminution of the size of the tumors. He also endeavored to point out whether, and in what way, the result of the operation was modified by the situation and size of the tumor.

PROF. MUELLER, of Berne, read a paper on

THE CÆSAREAN SECTION AND ITS MODIFICATIONS.

He said that the prognosis in Cæsaean sections had been hitherto very unfavorable, the death-rate exceeding eighty per cent. The recent advances in surgery, especially the improvements in laparotomy, had had an influence on the operation, which was shown by the endeavors to combat successfully the loss of blood and sepsis. This object was sought to be attained by two essentially different ways; the modifications were either radical or conservative. In the radical modification, the source of hemorrhage and of septic infection was cut off by removing the uterus; in the conservative, the uterus was retained, and an endeavor was made to ward off these dangers by careful treatment of the uterine wound. Both methods had doubtless certain advantages; but theoretical considerations could not support the radical modification. Yet, in regard to this matter, the result must turn the scale; the operation which was attended with the lowest mortality must be accepted as the best. The death-rate of the radical operation was about fifty per cent.; but trustworthy statistics were wanting with regard to the conservative method, of which there had been, as yet, less experience than of the former. It, therefore, remained yet to be decided which operation should be preferred. If the conservative method should gain recognition, another condition would have to be fulfilled, namely, to protect the woman against rupture of the uterus in a subsequent pregnancy, and against the danger of another Cæsaean section; and this would have to be done in a much more satisfactory and safe way than had hitherto been the case.

DR. BRAXTON HICKS, of London, read a paper on

INTERMITTENT CONTRACTIONS OF THE UTERUS IN THE DIAGNOSIS OF PREGNANCY AND ITS COMPLICATIONS.

He called attention to the value of this means of diagnosis, and referred to the discussion on his paper in the last Congress, where it was stated that soft tumors of the uterus also contracted at intervals. Presuming this was ultimately found to be correct in general, the cases in which this would interfere with the diagnosis were pointed out; namely, those in which the fœtus could not be felt, and where hemorrhage was urgent—for instance, where the uterus remained constantly firm, as in some cases of blighted ovum, or apoplectic ovum. In these, there was almost always a history of pregnancy, and of recent hemorrhage; while, if there were amenorrhœa or only normal menses, it would be exceedingly rare if it were a soft tumor. He gave three cases; two of pregnancy complicated with uterine fibromata. In the third one, of extreme obliquity of the uterus, it was difficult to say how much was uterus. In all the cases, the exact relation of the uterus was clearly and readily made out by means of the alteration which occurred at short intervals in the density of the uterus.

ANTISEPTICS IN LAPAROTOMY.

PROF. MIKULICZ, of Cracow, began by referring to the necessity of antiseptics in laparotomy, as well as in all other operations attended with loss of blood. The principles of the use of antiseptics in laparotomy were the same as in other great operations; but the details differed essentially in some points. This depended on the peculiarities of the peritoneum, which in some respects favored, while in others they impeded, the application of antiseptics. The most important properties of the peritoneum having an influence on antiseptics were, first, the great extent of surface, which was a source of danger of cooling on exposure, of rapidly spreading inflammatory and septic processes, etc.; secondly, its great power of absorption and exudation, the first leading, in septic peritonitis, to general septic infection, while, in the healthy peritoneum it prevented the accumulation of large masses of secretion; thirdly, the liability to pour out plastic exudations, and rapidly to form firm adhesions; in this way, foci of inflammation might be localized, and ligatures and separated masses of tissue encapsuled. With regard to antiseptics in laparotomy, attention was directed to the following points: A. The peritoneum was more easily affected by septic infective matters than any other tissue. Besides this, it was not possible to use, as with wounds of other parts, very active antiseptic measures, such as irrigation with carbolic acid and other powerful means, as, on account of rapid absorption, the danger of poisoning by the antiseptic was very great. Again, while drainage was of great use in wounds of other parts, it was useless in the peritoneal cavity, and could not obviate the results of infection of any kind. For these reasons, the chief point to be attended to in antiseptics during laparotomy was the absolute withholding of septic material from the peritoneum; and herein lay the great difference between antiseptics in laparotomy, and in other operations. In laparotomy, antiseptics was preëminently prophylactic. The cleansing and disinfecting of everything which was to be used in or had any relation to the op-

eration, must be carried out much more thoroughly than in other operations. The spray was superfluous in faultlessly clean rooms; but, in hospitals, it should be used for half an hour to an hour before the operation, for the mechanical purification of the air. During the operation, it was useless. In operations on the stomach and intestines, absolute prevention of the escape of the gastric or intestinal contents was one of the most important points in antisepsis. Drainage of the peritoneum was nearly always quite superfluous in operations performed aseptically; it might even be dangerous by allowing infection of the peritoneum to take place through the drainage-openings. Complete drainage of the peritoneum by the methods now in use was, on mechanical grounds, altogether impossible. Hence drainage was permissible in laparotomy only in rare and exceptional cases. B. Besides direct infection during the operation, spontaneous infection might occur in the peritoneum in certain conditions. It occurred when a large quantity of fresh, especially sero-sanguineous fluid, collected in the peritoneum, and was not rapidly absorbed. In this were developed bacteria, which led to decomposition of the secretion, and infection of the peritoneum. Hence the second great principle of antisepsis in laparotomy was to prevent the collection of secretion in the peritoneal cavity. Any means which limited the amount of secretion in the peritoneum or favored its absorption was a part of antisepsis in laparotomy. An accurate "toilet of the peritoneum" was of the first importance; next came the prevention of secreting wound-surfaces in the peritoneum by various means, such as ligature *en masse*, cauterization of the pedicle and of adhesions, suture of the wounded surfaces—*e.g.*, of the ligamenta lata or of the stump of the uterus (as in Schröder's myomotomy); and the shelling out of tumors having a wide base or lying behind the peritoneum, followed by suture of the peritoneal covering to the abdominal wound, so as to shut off the entire surface of the wound from the peritoneum.

Everything also must be avoided which might too powerfully excite the peritoneum to secretion—*e.g.*, irritation by strong antiseptics. To favor absorption, a compressive bandage should be applied over the whole abdomen; it also fulfilled the necessary object of keeping the abdomen at rest. With regard to the material used for ligature, catgut and carefully disinfected silk were equally good from an antiseptic point of view. The pedicle might be treated either extraperitoneally or intraperitoneally, so long as the abdominal cavity was perfectly closed. The manner in which the sutures were applied to the abdomen had no influence, provided that the surfaces of peritoneum were properly united. Any special method of dressing the wound was of very little importance, provided that no drainage-tubes were introduced into the abdominal cavity. A narrow strip of material, rendered antiseptic, was quite sufficient for the dressing of the wound; and for this purpose, solution of carbolic acid was the best and safest means. Large quantities of iodoform were dangerous, on account of the liability to poisoning; but Dr. Mikulicz had with advantage applied it in very small quantities to the pedicle and to the sutured stump of the uterus.

PROF. HALBERTSMA, of Utrecht, in a paper on

THE SIGNIFICANCE OF ALBUMINURIA IN PREGNANCY, said, in the first place, that the facts observed did not permit his recognizing, as the cause of albuminuria in pregnant women, a reflex contraction of the renal arteries. Secondly, albuminuria in pregnant women was specially observed when there was a want of proportion between the size of the gravid uterus and the abdominal cavity. And, thirdly, the cause of albuminuria in pregnant women was, in the greater number of cases, tension and compression of the uterus.

SOME DIAGNOSTIC DIFFICULTIES CAUSED BY HYPERTROPHY OF THE CERVIX UTERI.

PROF. HOWITZ, of Copenhagen, pointed out that, in cases of hypertrophy of the neck complicated by dilatation of the body and fundus of the uterus, special symptoms arose in consequence of change of the anatomical relations. In cases of pregnancy, especially in the first months, this condition gave rise to diagnostic difficulties. The elevated situation of the uterine enlargement, its strange mobility, its elasticity and situation, were characteristic guides in such cases. The foetal *bruit* could also be heard sooner than ordinary. A careful examination by the vagina and rectum would give precise information as to the condition of the uterus.

DR. PRIESTLEY, of London, said he had seen cases very analogous to those described by Prof. Howitz, which produced, not difficulty in diagnosis, but difficulty in accouchement. It was a question well deserving of consideration, whether, in certain cases, some operative measure might not be adopted.

THE OPERATIVE TREATMENT OF EXTRAUTERINE PREGNANCY.

PROF. WERTH, of Kiel, said that the operation was indicated in the early months of pregnancy when the foetus, being dead and lying in Douglas's pouch, produced severe symptoms of incarceration. On the other hand, laparotomy was without object when it was concluded that rupture of the sac had taken place, and experience up to the present time was in favor of expectant treatment. When pregnancy was more advanced, and the embryo was alive, operation gave little prospect of saving the child, and was of unfavorable prognosis for the mother, except in cases where the anatomical conditions favored removal of the entire ovum with its membranes. Hence it was a principle to avoid operation while the child was alive, and to wait for its death. The expulsive movements following the death of the embryo could, as a rule, be held in check by appropriate means. As the extrauterine position of a foetus which had died after having passed beyond the first stages of development was a source of danger to the mother's life, removal by operation of the dead foetus was necessary. The prognosis was incomparably better than that of operation during the life of the foetus, provided that a suitable time were chosen for the operation. This, whenever possible, should not be performed before arrest of the circulation in the maternal placenta might be supposed to have taken place; namely, from the tenth to the twelfth week after the death of the foetus. Speaking of the methods of operation, Dr. Werth said that, in the rare cases of prolonged pregnancy in the

outer part of the Fallopian tube or in the ovary, with simultaneous unfolding of the broad ligament, extirpation of the entire sac was indicated; the operation was like ovariectomy, and the prognosis was similar. As a general rule, the sac should be sutured to the abdominal wound. The placenta and membranes of the ovum should be removed, if there was no doubt as to the previous occlusion of the placental sinuses by thrombosis. If strict antiseptic precautions were followed during the operation, and an occlusive dressing applied, then neither preventive drainage through the vagina, nor permanent irrigation of the sac was necessary, provided that decomposition of the contents of the sac had not already set in. Both these were to be avoided, as well as washing out and plugging the sac, when the operation was performed during the life of the embryo or shortly after its death, and when artificial or spontaneous detachment of the placenta threatened fatal hemorrhage. On the other hand, the author recommended in these circumstances the partial filling of the foetal sac with some substance (tannin and salicylic acid in equal proportions, according to Freund), which might enable the placenta to remain aseptic until it was thrown off at a later date. Elytomy was preferable to gastrotomy only in some rare and peculiar cases. With regard to the proceeding recommended by Martin, of partial removal of the foetal sac, suture of the remaining part, and drainage through the vagina, further experience was required before a decision could be arrived at as to its general applicability.

THE EARLY PERFORMANCE OF OVARIOTOMY.

MR. KNOWSLEY THORNTON, of London, read a paper on this subject. He first considered whether it was ever right to interfere with an ovarian tumor by tapping or by aspiration. Spencer Wells, Keith, and Thomas were in favor of tapping; and many other leading ovariologists encouraged it. He gave quotations from Gross, Emmet, and Lawson Tait against the practice; and referred to the doubtful advantages claimed for this proceeding compared with its dangers, and its immediate and remote mortality. He said that exploratory incision was far safer and better in doubtful cases. Tapping should be condemned, except in some very rare cases. He would always remove an ovarian tumor as soon as it was large enough to be abdominal and slightly stretch the parietes. There were objections in operating earlier, except in special cases. The danger lay in delay. Pathological changes in the cysts might lead to the escape of their contents, and to the formation of adhesions; or the pedicle might become twisted. He adduced illustrations of the dangers of delay, drawn from over 400 ovariectomies he had performed, including forty cases in which ovarian fluid was free in the peritoneum, and thirty-four cases of twisted pedicle. He then summed up by considering the following questions: 1. Is tapping ovarian or parovarian cysts, or cysts of the broad ligament, ever justifiable; and if so, what conditions justify it? 2. Can any fairly general and defined rule be laid down as to the proper time at which to perform ovariectomy; and if so, what conditions justify an earlier or later operation? He concluded by appealing to the profession to improve still further the brilliant results of ovariectomy, by condemning tapping and supporting early ovariectomy.

MANAGEMENT OF THE THIRD STAGE OF LABOR.

PROF. STADFELDT, of Copenhagen, read a paper on this subject, in which he gave the result of the expectant method of treatment, Credé's method, and the Dublin method. In the expectant method, as practised in Copenhagen, the placenta was allowed to become detached spontaneously, and to escape into the vagina, unless severe hemorrhage indicated earlier removal of the contents of the uterus. As a rule, the detachment of the placenta took place within about two hours. In Credé's method, circular frictions of the fundus uteri were made immediately after the birth of the child, and during a strong after-pain, generally the third, the placenta was pressed out by a combined concentric and pushing-down pressure on the fundus and body of the uterus. The Dublin method was described in somewhat different terms by different authors. As a rule, the chief importance was attached to pressure on the fundus uteri immediately after the birth of the child. This, he thought, tended to increase antelexion, and thereby to impede the escape of the placenta. He had, therefore, applied friction to the fundus uteri, as in the first stage of Credé's method; and, when the placenta had escaped into the vagina, it was easily removed by the help of two fingers, with simultaneous gentle traction on the umbilical cord. In a few cases, where the placenta was not expelled at the end of half an hour, he made a depressing movement through the fundus. When these methods failed, the placenta was removed by the introduction of the hand into the uterus. Dr. Stadfeldt had treated a large number of cases by each of the three methods above named, and gave the results. From his statistics he excluded all cases of abortion and of placenta prævia, cases in which the contents of the uterus was putrid, and some cases of very difficult labor. From April 1, 1873, to March 31, 1877, he followed the expectant method in 1780 cases; from September 1, 1877, to February 1, 1881, Credé's method in 1611 cases; from May 12, 1882, to February 15, 1884, the Dublin method in 971 cases; and from February 16 to May 30, 1884, the expectant method in 198 cases. The results indicated that, when compared with the expectant method, that of Credé was preferable. Detachment and retention of the membranes, or of small portions of placenta, indeed occurred more frequently; but the preponderance was not great (2.3 against 1.8 per cent.), and any danger might be obviated by the use of antiseptics. On the whole, it seemed to him that the objectors to Credé's method were wrong in attaching too much importance to its disadvantages, and in overlooking the fact that it removed the dangers attendant on the expectant method during the time of waiting, especially outside lying-in hospitals. It could not, however, be denied that the proper and safe application of Credé's method required so much intelligence and accuracy, that it might be attended with danger in the hands of unskilful persons, and, therefore, it was not thought right in Copenhagen to teach it to midwives. On the contrary, the Dublin method was easily learned, and was free from the dangers of the expectant and Credé's methods; on the one hand, it diminished the liability to flooding and of retention of the placenta; and, on the other, removed the danger of separation and retention of the membranes. It had been said that Credé's method, by favoring re-

tention of the membranes and of the decidua, was more liable than the expectant method to give rise to puerperal disease and mortality. The contrary was the result in Dr. Stadfeldt's experience; the figures given being, with the expectant method, for disease, 24 per cent., and for mortality, 1.9; with Credé's method, disease, 18.3 per cent., mortality, 0.6 per cent. In both series, antiseptics had been used with equal energy. He believed that, in the present day, retention of the membranes had little influence on puerperal disease and mortality, provided that strict antiseptic precautions were carried out during labor, and that the accoucheur abstained from unnecessary meddling during the lying-in period. Large portions of decidua might even be left in the uterus without becoming septic, and without giving rise to self-infection of the patient.

PROF. LAZAREVITCH, of Kharkoff, read a paper on

CONGENITAL LATEROPOSITIONS OF THE UTERUS,

in their relation to the mechanism of labor, and to the periuterine tumors. These congenital lateral positions were, he said, frequent, especially in cases in which the uterus was completely displaced to the left. Those which depended on the development of pathological growths must be changed to other positions, and on that account must be called accidental. But, if they depended on a defect in the development of the broad ligament, or of the lateral wall of the vagina, these positions were invariable, and did not alter during the growth of the tumors, whatever these might be, which were formed round the uterus, any more than during the period of pregnancy. If the lateral position of the uterus were sufficiently marked, the anterior position of the rectouterine pouch, being displaced by the uterus, took an oblique shape; and the ovary, which corresponded to the large side of the periuterine space, being pressed upon, often lay above the periuterine pouch, and fell down more or less. The ovary of the opposite side, not finding place near the uterus, was ordinarily raised up and passed above the upper entrance to the cavity. According as the one or the other ovary became cystic, the cyst either remained for a longer or shorter time in the deep cavity, and, in its growth, displaced the uterus forwards and upwards, or, from the beginning of the growth, was found above the deep pelvis and the uterus, leaving it free. If the ovary corresponding to the large side of the periuterine space became cystic, the pedicle of the cyst was ordinarily long; and, on the contrary, it was short if the cyst belonged to the ovary on the smaller side of the periuterine space. Thus, so far as the lateral position of the uterus was concerned, one was not able to say to which of the ovaries the cyst belonged; but, if one knew to which ovary the cyst belonged, one could estimate the length of the pedicle. Being turned to one side, the uterus left free entrance to the rectouterine pouch; and, for this reason, the blood of the pouch could spread in all directions. If the uterus were turned to one side, it was difficult to say that it was completely inclined, or bent forwards or backwards; it was in this event that the cases of latero-version and latero-flexion were met with. In the case where the uterus was turned to one side, pessaries could not keep it up, owing to the difference in the length of the lateral walls, and the difference in height of the lateral vaults of the vagina. One was often deceived

as to the origin of the pain felt sometimes on one side in the lower part of the abdomen, particularly during menstruation, in attributing this to the ovary. This pain most often proceeded from the laterally displaced womb. Congenital lateral positions, as well as the lateral versions of the womb, had an evident influence on the mechanism of labor, but this influence was not proportional. In the lateral version the womb, increasing during pregnancy, preserved its regular form, changing only the direction of its axis; whereas, when displaced in the lateral position, it preserved the direction of its axis, but changed its shape, because, on the side on which it approached one of the lateral walls of the pelvis, its lower segment did not expand, or expanded very little, whilst the segment on the opposite side underwent saciform expansion. During labor, one could easily do away with lateral version of the womb by making the woman assume a suitable position, or by keeping up, by means of the hands, the corresponding side of the womb. But these measures became useless if the womb were in the state of lateral position. In this case, it was enough to introduce the finger into the neck of the uterus, and to draw it toward the middle of the pelvis.

DR. E. INGERSLEV, of Copenhagen, read a paper on

STATISTICS OF PUERPERAL FEVER IN DENMARK,

in which he gave a brief summary of a research into puerperal mortality in the towns of the Danish provinces and in Copenhagen for the last seventeen years. The principal aim of the paper was to explain how the difference between the mortality in the maternities and outside them, elsewhere brought into such strong relief, had lost its *raison d'être* since it was proved that the antiseptic measures to be taken in labor were still less performed outside of maternities. He also stated his opinion that matters were, up to this time, nearly as successfully managed in the towns as in the country districts of Denmark. Dr. Ingerslev went on to show that the ravages of puerperal fever were most manifest when one looked at the proportion between the puerperal mortality and the total mortality in women from fifteen to forty-five years of age, that was to say, of the age at which labor generally took place. In this regard, a great resemblance was found between this and like researches made a short time back in Prussia. The great difficulties in the way of finding a fairly exact expression for the puerperal mortality would be, perhaps, best overcome in a small country, where one could almost easily obtain a general view of things, and make requisite corrections by applying to medical men for the necessary explanations. He had made the attempt for a period of some years, and in this way had made a calculation of the mortality, as near as possible, and showing, at the same time, a minimum of errors. The calculation, so checked, showed an evident decrease in the puerperal mortality, which undoubtedly was due to a more strictly antiseptic conduct of labors even outside the maternities.

DR. MARTINEAU, of Paris, read a paper on

UTERINE ADENOLYMPHANGITIS.

as a cause of the so-called periuterine troubles, and its importance in the treatment of inflammation of the uterus. He took the view that uterine and periuterine adenolymphangitis was closely connected with

uterine inflammation. Acute or chronic metritis could not exist without the uterine and periuterine lymphatic system sharing in the inflammation of the uterine tissue. Periuterine adenolymphangitis was the origin of the inflammatory accidents called periuterine, such as phlegmon of the broad ligament, periuterine phlegmon, perimetritis, and pelvic peritonitis. The designation of these conditions by the names adenophlegmon of the broad ligament, periuterine adenophlegmon, adeno-pelvic peritonitis, was that which suited them, because it recalled their origin and pathology. Periuterine adenolymphangitis being equivalent to uterine inflammation, every cause which would have as a result the increasing of this inflammation would at the same time increase the periuterine adenolymphangitis, and bring about the symptoms.

DR. APOSTOLI, of Paris, proposed

A NEW ELECTRIC TREATMENT OF PERIMETRITIS BY DOUBLE FARADIZATION OF THE UTERUS.

He described, in the first place, the modification which he had introduced in the manual application of uterine faradization (A. Trifner's method); and he enumerated its general advantages in the treatment of simple metritis. He applied his method also advantageously in perimetritis, and described the manual method, the dose, duration, and intensity of the application. Summing up, he had always found faradic currents, of high tension, feeble dose, and long duration to relieve every perimetritis, even acute, and bring about its rapid resolution.

PARTIAL EXCISION OF THE PERITONEUM.

DR. SAENGER, of Leipzig, said that in the radical extirpation of large dermoid tumors of the abdominal wall (fibroma, sarcoma, perhaps myoma) which, arising mostly from the aponeuroses, were closely or even inseparably connected with the parietal peritoneum, this might require to be cut away along with large portions of the abdominal muscles, to such an extent that the edges of the peritoneal wound could not be brought together, and no covering remained except the skin. Dr. Säger had operated on a case by a modification of Sklifosov-sky's operation, and the course had been perfectly aseptic. The abdominal muscles, which were much thinned, being preserved, the swelling was removed from its capsule with a portion of parietal peritoneum; a number of small drainage-tubes were placed in the abdominal cavity; the skin was drawn together and sutured in such a way as to form a firm ridge, so as to prevent the occurrence of a hernia. Excision of the abdominal wall might be followed by retroperitoneal emphysema, which might be removed in a few hours by the application of an elastic bandage. Experiments on rabbits showed that a new formation of peritoneum did not take place, but the intestine rapidly became adherent to the skin. Resection of the parietal peritoneum and of that in Douglas's pouch might, the author said, be done in cases of firm adhesion of tumors of the abdominal cavity, where the breaking through of close and very vascular adhesions appeared likely to be especially difficult, and also in cases where the peritoneum, mistaken for an adherent capsule, had been extensively peeled off from the aponeurosis, and the properitoneal space had been converted into a sac which might readily become the seat of an abscess.

TREATMENT OF PUERPERAL FEVER BY COLD BATHS.

PROF. VINCENT, of Lyons, said (1) that the administration of cold baths was practicable with the recently delivered attacked with puerperal fever; that (2) cold baths were free from danger in the puerperal state; (3) they had a certain and quick antifebrile effect in the sequelæ of delivery; (4) recovery from puerperal fever was the rule with treatment by baths of proper temperature and methodically administered; (5) cold baths were indicated in all high temperature forms of after-complications of childbirth, the very acute peritonites excepted. The indication for cold baths did not arise except where the fever was kept up, without notable morning remission, to about 104° Fah., when the powerlessness of quinine and diffusible stimulants in full doses had been shown, and when, in fine, the lochia were fetid, and intrauterine injections had been carefully tried without bringing a fall in the febrile condition. (6) Cold baths should be administered at a temperature varying from 82.4° to 64.4° Fah.; according to the fall secured by the first bath given at 82.4° or 86°, the temperature of the subsequent baths should be reduced. (The rule was, to get with a cold or tepid bath a fall of from one to two degrees of the patient's temperature.) The method used in typhoid fever, treated by cold baths after the system of Dr. Brand, should be followed, with modifications. (7) The cold baths were repeated every three hours until the temperature had fallen to 100.4°, and staid there, with only ascending oscillations of some tenths in the evening. (8) When baths of 64.4° or 68° Fah., repeated every three hours, night and day, did not bring about a notable reduction of temperature, a large ice-bag should be placed, in the intervals of the baths, on the abdomen of the patient. (9) Along with cold baths and ice-bags, spirits and tonics should be freely administered; the patients should be fed with liquid or semiliquid foods, having much nutriment in a small bulk—soups, beef-tea, American broth, milk, etc. —*British Medical Journal*, Sept. 6, 1884.

SECTION OF MILITARY MEDICINE.

DR. JOSEPH EWART, of Brighton, read a paper on TYPHOID OR ENTERIC FEVER AMONG SOLDIERS IN THE TROPICS.

Until Scriven recognized the disease in Europeans, and he himself in natives of India, more than thirty years ago, it had always been grouped among continued and remittent fevers. It now caused more deaths among the troops in India than cholera. Its prevalence was altogether independent of malaria; but intimately connected with rise of temperature. This would seem to emphasize the conditions upon which the production of its cause was dependent. He objected to the term "typho-malarial." He thought it would be as reasonable to call a case of smallpox ushered in by ague, liable to recur and modify the course and character of the exanthem, if not controlled and checked by quinine, "variolo-malarial fever." The etiology was exhaustively dealt with; and it was pointed out that, as contended by Sir Joseph Fayrer and others, "it was quite possible that the fecal filth-theory of causation might not cover the whole ground, and that the poison might perhaps thrive and propagate in other kinds of filth."

SIR JOSEPH FAYRER, in a paper on

SUNSTROKE AND THERMIC FEVER,

divided it into three heads, which might be concisely stated as (1) syncope from exhaustion; (2) an analogous condition in which the respiratory centre was seriously implicated; (3) overheating of the whole body—thermic fever of great intensity. The general effects of heat in leading to impairment of health were also carefully dealt with. The treatment consisted in reducing the temperature of the body; but, in doing so, undue depression of the vital powers was to be avoided. The lesions of insolation and thermic fever were more or less enduring. Hence, care must be exercised in allowing those who had been affected by them to return to work in tropical countries. As a very general rule, they were permanently disqualified for occupation in hot climates.

DR. LAUB, of Copenhagen, in a communication on

PERIOSTITIS CAUSED BY OVERFATIGUE AMONGST SOLDIERS,

said that periostitis caused by fatigue, almost exclusively attacked the tibia. It had a preference for young soldiers, recruits, and especially for individuals whose social position prevented them from making a forced use of their lower extremities. The anterior existence of slight traumatic affections was a predisposing cause, and the same might be said about convalescents after fevers. On the other hand, the predisposing conditions of dyscratic affections, as scrofula, phthisis, and syphilis, seemed doubtful. The disease generally came on by degrees, occasioned by continual marches, rarely by accident. The course of the malady was subacute; it was febrile, never suppurating, finishing by the formation of hyperosteal plates, the seat of which often corresponded with the point of origin in the muscles. Relapses were frequent, complications rare. In certain cases, patients should be treated by incision. In the civil population, the disease seemed to be very rare. Amongst Danish conscripts, its occurrence was explained, owing to the too short period of their training. This affection was unfavorable to future military service.

THE HYGIENIC PROTECTION OF AN ACTIVE ARMY AND THE SURROUNDING COUNTRY IN THE REAR.

DR. MICHAELIS, of Innsbrück, treated this question under the following headings. A. He spoke of the history of war-epidemics, and of national and international powers making war. B. He summarized the means of protection: 1. Instruction of the people, of the soldier, especially of the officers, in military schools; 2. Laws of war-epidemics; 3. Military measures—preparatory, executive; 4. Civil measures—preparatory, executive; 5. Hospitals for war-epidemics; 6. Disinfecting institutions; 7. War quarantines; 8. Measures of protection on the dissolution of armies.

DR. J. M. BROWNE, of the United States Navy, presented a sketch of

A RAPID TRANSIT AMBULANCE,

with the following remarks: This cot was designed by Surgeon Henry M. Wells, United States Navy, for the easy and rapid transportation of sick and wounded persons in hospitals, prisons, ambulances, police-stations, factories, steamers, and the army and navy. It

is constituted of stout canvas, with thin hickory slots, about forty in number, five-eighths of an inch in width, and a quarter of an inch in thickness, thus forming a bottom of spring slots, like a mattress, giving it sufficient stiffness laterally, and permitting it to adapt itself longitudinally to the form of the patient, rendering the support equable and comfortable. It is made to accommodate a person six feet in height, its width being two feet and a half, and the sides six inches in height. It has two poles made of hickory; without the poles it can be rolled up and carried under the arm, having a weight of ten pounds. There are five stout canvas handles on each side for lifting, so arranged that the cot can be carried at any angle required by the disability of the patient, or a person badly wounded or completely disabled. Two men on each side should be employed, each taking two handles. As the bottom of the cot adapts itself to the form of the body, it can be inclined to an angle of 45.0° without the sliding off of the patient. It can be used in the form of a chair, and carried by two persons. It is simple, compact, durable, and cheap, and is readily adapted for use without the stretcher-poles in handling the sick and wounded in narrow and tortuous stairways, ship-ladders, and gangways, in ambulances, hospitals, and wherever the disabled are to be moved. There is no metal in its construction, and it can be cleaned or scrubbed like a hammock. It is also intended as an army-stretcher or camp-cot.

PROF. ESMARCH, of Kiel, opened a debate on

THE ANTISEPTIC TREATMENT OF WOUNDS IN TIME OF WAR.

The following principles were laid down in his address: 1. It is a pressing demand of humanity to grant in war to the wounded the protection and the benefits of the antiseptic treatment of wounds. 2. In order to meet this demand, it is necessary that all military surgeons should be perfectly familiar with the antiseptic treatment; the lower sanitary officers, hospital assistants, tenders of sick, and sick-bearers, should also be instructed in the principles of antisepticism. Not only the field-hospitals and sanitary detachments, but also the medical carriages of the troops, the knapsacks, and the bags of the hospital assistants, must be sufficiently provided with antiseptic dressing material. Every soldier should carry, in war-time, some form of bandage which, in case of need, could be used provisionally as a protective dressing. 3. All dressing materials should be packed as compactly as possible, and the bandages ought to be divided into various sizes to save time. 4. Corrosive sublimate has shown itself up to now to be the most efficacious of all antiseptic remedies. It might be adopted as the best means of impregnating the dressing material. 5. An impregnated sublimate material is therefore proposed as a compact dressing; the volume can be considerably reduced by compression. 6. From this sublimate material, small pieces of square size can be taken which are to be used as compresses for all kinds of wounds. Should one, for instance, choose a size of fifty centimetres square, one could use such a piece, folded from four to six times, as a first covering for the simple opening of a shot, whilst eight or ten such pieces, laid one upon another, could be used as a dressing for a large wound, as after amputations, resections,

etc. 7. From the same material one could make bandages of a certain width and length, which could be employed for all kinds of wounds. For instance, as a normal bandage, a width of ten centimetres and a length of five metres should be chosen; the same could be used for wounds of various sizes; for fixing the gauze compresses, should a narrower bandage be required, the normal bandage rolled up could easily be divided by a sharp knife in two halves. 8. In case of need, a compress of optional thickness could be formed by laying the bandages one upon another. 9. A solution of carbolic acid, for the disinfection of hands and instruments, could hardly be dispensed with. Means must necessarily exist to produce quickly large quantities of this solution in the field-hospitals, as well as in the dressing-places. Large quantities of crystallized carbolic acid and measures must be taken for the field-hospitals. For the chief dressing-places, and sanitary detachments, it is recommended to take dissolved carbolic acid in small glasses, divided in such a way, that a dose put into a vessel of known measure (irrigator, bucket, etc.), would give a solution of a certain strength; otherwise, mistakes would easily be made by the sanitary staff in producing these mixtures. Carbolic spray can be dispensed with in field-practice, likewise protective silk and mackintosh; in case of need, the two latter materials could be replaced by varnished silk paper. 10. Should the dressing materials be used up, a new antiseptic material could be quickly produced. Sublimite should likewise be taken, dissolved in two and one-third parts of glycerine, in sufficient quantity; and the sanitary officers should be instructed to prepare antiseptic dressings out of the various materials, as wool, wadding, lint, jute, turf, or sawdust. 11. Iodoform powder in boxes can hardly be dispensed with for some kinds of wounds, but on the whole its antiseptic efficacy is not equal to that of corrosive sublimate. 12. Sublimated catgut of various strengths, and drainage-tubes of different calibre, must also be supplied. 13. Sponges should not be used; it is impossible to disinfect them. Pads and antiseptic material should be employed after first being dipped in a sublimate solution; they should be destroyed after use. 14. Surgical instruments should not have furrows, as they harbor infection; a superficial cleaning does not remove germs. 15. By using such a material all wounds can be dressed antiseptically, and be operated upon not only in the field-hospitals, but also at the chief dressing-places. 16. When a strict antiseptic dressing cannot be accomplished, as for instance in the first dressing-station of the troops, the principle of treatment must be borne in mind, "Do not do any harm." 17. The wound should not be examined with fingers or instruments which are not surgically clean (aseptic), because there are always particles of putrefaction on fingers and instruments which have not been cleaned; and these sources of putrefaction are absorbed and cause inflammation, festering of the wound, etc. Exceptions from this rule is only made in case of dangerous hemorrhage. 18. Bullets must not be extracted without antiseptic precautions. A projectile in the body forms alone only a small injury. Many bullets heal in without causing lasting injury. Experience teaches that very serious wounds of the bones, joints, sinews, nerves, lungs, heart, brain, which the bullet has caused on its way, heal if

there have been no entrance of the producers of putrefaction. 19. Where there is no strict application of antiseptic (for instance in the dressing-places of the troops), surgeons should abstain from operation. The only course left to them is to put on provisional bandages; that is to say, to cover the fresh wounds freely with antiseptic material, in order to protect them from being penetrated by the producers of putrefaction; to keep quiet the injured parts of the body, to make them immovable by linen splints, gibs, dressing, etc.; to send the wounded as quickly as possible where there is a chance of dressing the wounds strictly antiseptically. 20. After the arrival in the field-hospital of a wounded man whose wound has been dressed provisionally, and where there are no symptoms which make a closer examination of the wound necessary, such as fever, pain, bleeding, etc., the wound should be left untouched, and not even the first occlusive dressing should be removed; for many shot-wounds can heal without pain or fever, and other accidental wound-diseases, under the first dressing. 21. But should anything occur which necessitates an examination of the wound, then the dressing must be taken away at once, and an energetic antiseptic treatment of the wound must be undertaken. For this purpose (besides in greater operations, amputations, resections, etc., which may be necessary), what, above all is required, is drainage and thorough disinfection with effective antiseptic remedies, chloride of zinc, sublimate, iodoform, and afterwards the application of the antiseptic bandage. 22. The sick-bearers, when there is a dressing-station at hand, should carry the wounded as carefully as possible on the stretcher, and take them as quickly as possible to the dressing-place. 23. Only in those cases where there is no medical help in the vicinity, or where dressing-material cannot be obtained, should the bandages the soldiers carry themselves be used by the wounded, or by the sick-bearers, especially in the cavalry. They must also contain, besides the antiseptic dressing-material, a triangular cloth, with which the protective dressing must be covered, the wounded member be fixed, and eventually an improvised splint can be fastened.

PROF. NEUDÖRFER, of Vienna, contributed some very important observations to the discussion, chiefly confining himself to the question of surgical hemostasis in time of war. He said that there were a number of points, still the subject of controversy, which required settling; for instance, the physical circumstances and qualities attending gunshot wounds; the hydrostatic effect of projectiles on the vault of the skull and hollow bones; explosive qualities at certain distances; the temperature of the exploding projectile, etc. All these points had an influence on wounds and on hemorrhages. It was desirable to have statistics as to the rate of percentage of those dying from bleeding on the battlefield, as well as of those who had to be protected by the surgeon from bleeding to death; and, finally, the rate of percentage of those who were threatened with secondary hemorrhage. On the battlefield, for those in the first line, he recommended compression by means of elastic webbing as an hemostatic agent. This should be done on the spot. It was desirable to fix the value of different methods of hemostasis. Amputation must not be taken into account as an hemostatic agent.

After a few remarks by PROF. SALOMON, the President of the Section,

SIR WILLIAM MACCORMAC, of London, said that he had listened with great attention to the addresses of Professors Esmarch and Neudörfer, and he only proposed to indicate the principles on which large numbers of wounded on the battlefield, and immediately afterwards, might be most effectively dealt with. The manner of dealing by the antiseptic method of the wounded in battle was surrounded by many practical difficulties. From his experience, he might lay down a few principles. It must not be expected to have on the battlefield civil hospitals. Much might be done by proper distribution of men, and by prompt attention, to provide for the immediate wants of the fighting force in front; moving, as quickly and as carefully as possible, the wounded to a place of safety. How far was it practicable to apply antiseptic methods on the battlefield? As a rule, first dressings were not successful. In the Ashantee war, the first dressing did not adhere to the wound, as it was creased. He spoke favorably of the triangular bandage, and of iodoform, which promised the best results if mixed with glycerine. He dwelt on the usual requirements of field-hospitals; and observed that in savage wars, owing to the long line of communication and distance from the base, field-hospitals had to be kept up near the fighting line.—*British Medical Journal*, September 20, 1884.

CORRESPONDENCE.

INTRAVENOUS INJECTIONS.

To the Editor of THE MEDICAL NEWS.

SIR: The editorial article on "Intravenous Injections," in your issue of to-day, calls attention to a therapeutic measure which I am sure, from my own experience, deserves further trial in this country, and I beg leave to refer to an article in *The Medical Record*,¹ of January 5, 1884, in the hope that practitioners may be encouraged to furnish additional evidence of the merits of this operation as a substitute for transfusion of blood. Nineteen cases were tabulated, all of which were from foreign sources except five from my own service, and one each from Dr. Weir and Dr. Halsted, of this city. The result was (19 cases), recovery in thirteen cases, temporary recovery from collapse in three cases, and but a passing improvement in the remainder. It will, perhaps, enable some of your readers to try the operation, if you will permit me to quote the last two paragraphs of the article referred to. They are as follows:

"In order to have ready a vessel convenient for the operation, Mr. Ford, of Caswell, Hazard & Co., has made for me a tubulated bottle (graduated), with rubber tubing, to which a canula can be attached by means of a metallic coupling.

"The salts are kept in a small phial. A trocar and also a blunt stylet are added, in order that one may puncture the vein with the former, or after opening it guide the canula into it on the latter instrument. An

ordinary glass or metallic irrigator, or a funnel with tubing attached will do about as well. Let the solution (water, ℥xxxij; chloride of sodium, ℥jss; carbonate of soda, gr. xv), warmed to 100° F., flow from a height of two or three feet in the course of fifteen or twenty minutes. The canula should be no larger than a medium-sized aspirator needle, one-sixteenth inch in diameter; the apparatus disinfected with three per cent. solution of carbolic acid, and antiseptic precautions observed in operating. Choose the arm in which a well-distended vein can be seen at the bend of the elbow, and failing to find one secure the radial artery, and inject the fluid into its central end."

Your obedient servant,

W. T. BULL, M.D.

35 WEST THIRTY-FIFTH ST., NEW YORK,
September 20, 1884.

NEWS ITEMS.

THE ORGANIZATION OF THE WASHINGTON INTERNATIONAL MEDICAL CONGRESS.—The Committee charged with the organization of the Ninth International Medical Congress, to be held at Washington in 1887, is constituted as follows:

Drs. Austin Flint, of New York; I. Minis Hays, of Philadelphia; Lewis A. Sayre, of New York; Christopher Johnston, of Baltimore; George J. Engelmann, of St. Louis; J. S. Brown, of U. S. Navy; and J. S. Billings, of U. S. Army.

We learn that the Committee will meet at an early day to consider the preliminary arrangements for the organization of the Congress.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The opening session of the Twelfth Annual Meeting of the American Public Health Association will be held at St. Louis on Tuesday, October 14th, in the Main Hall of the Liederkranz Building, S. E. corner of Thirteenth Street and Chouteau Avenue.

The headquarters of the Association during the meeting will be at the Southern Hotel.

The National Conference of the State Boards of Health, postponed from August 7th, at Washington, will also be here during the same week.

Delegates and their families paying full fare to St. Louis will be returned at one-third of the lowest unlimited rate, on certificate from Secretary. To procure this reduction, it will be necessary to have the ticket agent, at starting-point, fill out a certificate with the form and number of ticket purchased, route and amount.

INTERNATIONAL OTOLOGICAL CONGRESS. The Third International Otological Congress was held at Basle, Switzerland, from the 1st to the 5th of September, under the presidency of Dr. A. Burckhardt-Merian, of Basle. The proceedings were opened on Monday at the hall of the University, by addresses from Dr. Sapolini, of Milan, the retiring president, and Dr. Burckhardt-Merian, the president-elect. Addresses of welcome to the town of Basle were delivered by Counsellor Schenk, on the part of the Swiss Federation, and by a delegate from the Canton of Basle. A breakfast, given by the Swiss surgeons to the members of the Congress, followed. On Wednesday the members of the Congress

¹ On the "Intravenous Injection of Saline Solutions as a Substitute for Transfusion of Blood," a paper read before the Practitioners' Society, New York, December 7, 1883.

were entertained at a banquet. During the three following days about forty papers were read, and demonstrations were given on subjects bearing on Otological science, all of a most interesting, instructive, and original nature. The principal contributors were Politzer, of Vienna; Moos, of Heidelberg; Guye, of Amsterdam; Sapolini, of Milan; Geile, of Paris; His, of Leipzig; Hartmann, of Vienna; Lowenburg, of Paris; Kuhn, of Strasburg; Albrecht and Delstanche, of Brussels; and Pritchard, of London. It has been arranged that the next Otological Congress be held in Brussels, in 1888.—*British Medical Journal*, Sept. 20, 1884.

OBITUARY RECORD.—DR. FLEETWOOD CHURCHILL, F.K.Q.C.P., died suddenly, on September 6th, at his residence in London, of heart disease. At the time of his decease he was 51 years of age. He became a Licentiate of the Royal College of Surgeons in Ireland in 1853. He then settled down as District Surgeon and Health Officer at Simons's Town, Cape of Good Hope. After several years' residence here he returned to Dublin, his native city. In 1862 he joined the King and Queen's College of Physicians as Licentiate in Medicine. In 1868 he became a Fellow of the College, and also a Licentiate in Midwifery. He was chosen as physician to various hospitals in Dublin, and was the editor and joint author of his father's, Fleetwood Churchill, Sr.'s, work on *Diseases of Women*.

NOTES AND QUERIES.

PENSION SURGEONS.

To the Editor of THE MEDICAL NEWS.

SIR: I have read with interest, in *The Century* for July, the article on the "United States Pension Office," and while it is my belief that the general sentiment of the paper toward the pensioners is unjust, yet my special object in writing this note is to express an opinion in regard to the writer's proposition to do away with local boards of examining surgeons. He says, "The applicant is referred to examining surgeons near his own home. Here is another weakness in the system. The surgeons are local physicians; their natural disposition would be to favor the applicant, as a neighbor and acquaintance, perhaps a patient."

Contrary to this opinion, I believe this to be an efficient safeguard. The very fact that the examining board is composed of local physicians of respectability and extended acquaintance would cause an intending fraudulent applicant to hesitate to press his unjust claims. The law requires that the three members of each board must individually, in the presence of the whole board, examine every applicant. Suppose the man has some disease that is intermittent in its exacerbations—*e.g.*, asthma, hemorrhage of the lungs—the fact that the man was a patient of a member of the board, or of some physician known favorably to the board, would justly be of great value in getting the facts about a worthy or unworthy claim. Further on, the writer for *The Century* says: "There is little reason why they" (the examining surgeons) "should feel called upon to protect the Government treasury." That "little reason" is an oath which each examining surgeon takes. "They get their fees whether they decide favorably upon a case or not." It would be strange to have the fee paid the surgeon providing he failed to recommend the applicant. "It does not follow that they" (the examining surgeons) "are dishonest because they credit an applicant's account of his ailments, and let him make the most of his symptoms." Those interested can find in the certificates of the examining surgeons many such statements as these: "Applicant says he has frequent attacks of diarrhoea; but we have only his word for it, and can make no recommendation." In other words, the board of surgeons make recommendations only on what they know. They may say: "If the Department has proof corroborating such and such a statement of the applicant, we recommend a certain rating." In conclusion, the writer recommends "Travelling Boards of Government Surgeons, instead of civil physicians." I doubt not that a "travelling board," sent out from Washington, would be composed of honorable and just men; but that all the official honor of the country

emanates from the neighborhood of the capital I have temerity enough to question. The great additional expense of a perambulating board over the "civil board" is also worthy of some consideration. The respectable, studious, busy physicians of any city are not the persons a man would select to participate in a crime.

Yours, very respectfully,

WALTER LINDLEY, M.D.,
Member of the Board of United States
Examining Surgeons.

LOS ANGELES, CAL., August 26, 1884.

THE DANGER OF GLASS VAGINAL DILATORS.

To the Editor of THE MEDICAL NEWS.

SIR: An anonymous correspondent, in your issue of August 2d, details his experience in removing a glass dilator which had suddenly "broke with an audible report," while in his patient's vagina and without being subjected to any violence. He also speaks of having seen a tumbler "unaccountably fly to pieces without any apparent external agency."

His experience is not unique, nor is the explanation of the phenomenon difficult. The glass, in these cases, has not been properly annealed; its particles are on a strain, as in the familiar Prince Rupert's drop, and anything which causes a slight disturbance of the particles, produces an explosion. While visiting the laboratory of the Michigan Agricultural College, a few days ago, I was shown by Prof. Kedzie a piece from a lamp which had exploded while unlighted, and standing on the table. On looking at this piece through a polariscope, the dark cross was plainly marked. That this was due to the particles being subject to strain, was then shown as follows: on looking at a piece of ordinary glass, no cross could be seen through the polariscope, but on subjecting this piece to great pressure in a vice, the cross at once appeared, as with the piece of the lamp.

If, therefore, our gynecological friends propose to continue to use these glass implements, it perhaps would be well for them to examine each one with the polariscope before introducing it.

Yours, etc.,

J. F. BALDWIN, M.D.,

COLUMBUS, OHIO.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 23 TO SEPTEMBER 29, 1884.

WHITE, R. H., *Captain and Assistant Surgeon*.—Assigned to duty as Post Surgeon at Fort Winfield Scott, California, relieving Assistant Surgeon A. S. Polhemus, who, upon being relieved, will report to Commanding Officer, Alcatraz Island, California, for duty.—*Par. 1, S. O. 113, Headquarters Department of California*, September 19, 1884.

HALL, JOHN D., *Captain and Assistant Surgeon*.—Assigned to duty at Fort Townsend, Washington Territory, to relieve Surgeon R. S. Vickery. Surgeon Vickery, on being relieved, directed to report to Commanding Officer Vancouver Barracks, Washington Territory, for duty.—*Par. 3, S. O. 140, Headquarters Department of California*, September 15, 1884.

TESSON, L. S., *Captain and Assistant Surgeon*.—Directed to report to Commanding Officer Fort Stockton, Texas, for temporary duty.—*Par. 3, S. O. 127, Headquarters Department of Texas*, September 22, 1884.

BIRMINGHAM, H. P., *First Lieutenant and Assistant Surgeon*.—Leave of absence extended twenty days.—*Par. 2, S. O. 116, Headquarters Division of the Missouri*, September 22, 1884.

MADDOX, T. J. C., *First Lieutenant and Assistant Surgeon*.—Directed to report to Commanding Officer Post, of San Antonio, Texas, for duty.—*Par. 5, S. O. 127, Headquarters Department of Texas*, September 22, 1884.

BARROWS, C. C., *First Lieutenant and Assistant Surgeon*.—Leave of absence extended one month.—*Par. 6, S. O. 97, Headquarters Division of the Pacific*, September 19, 1884.

DIETZ, W. D., *First Lieutenant and Assistant Surgeon*.—Assigned to duty at Fort Selden, New Mexico. (Post Surgeon).—*Par. 4, S. O. 187, Headquarters Department of Missouri*, September 18, 1884.

MCCAW, W. D., *First Lieutenant and Assistant Surgeon*.—Assigned to duty as Post Surgeon, Fort Craig, New Mexico.—*Par. 5, S. O. 187, Headquarters Department of Missouri*, September 18, 1884.